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Executive Summary

1.0 Situation

The Army is transforming itself to the Objective Force that is America's future full spectrum force: organized, manned, equipped and trained to be more strategically responsive, deployable, agile, versatile, lethal, survivable and sustainable across the entire spectrum of military operations from Major Theater Wars through Counter Terrorism to Homeland Security. TRADOC is transforming its education and training programs to support attaining the Objective Force. These programs will continue to train, consistent with the doctrine prescribed in FM 25-100, *Training the Force*, the ***science*** of operating and maintaining the systems as well as the ***art*** of the tactics, techniques, and procedures for fighting and winning on Objective Force battlefields.

2.0 Mission

Develop Enlisted MOSQ and Lifelong Learning Implementation Plan that describes:

- Innovative and advanced training support strategies leveraging current and evolving technology more effectively and efficiently for technical training and skill proficiency in IET.
- Modifications required to the current training support model to extend the lifelong learning process and provide the links between the unit, institution, and the soldier necessary for sustaining skill proficiency, regardless of soldier and unit location or mission.

3.0 Execution

3.1 Concept of Operations

TRADOC will integrate existing personnel, materials, methods, facilities, and infrastructure with emerging technologies, methodologies, and evaluations to provide lifelong learning for Objective Force soldiers and leaders. The return on investment for lifelong learning includes providing better learning for better trained soldiers and leaders, delivering education and training at the location of the student worldwide, using less equipment for training, providing greater student throughput and surge capacity, and using fewer facilities per student. It also increases TRADOC support of field commanders and their units.

3.2 Commander's Guidance

Examine current training support strategy and determine a new strategy providing individual, leader, and unit training competencies required of a full spectrum Army. The strategy will be driven by a combined arms system of systems DTLOMS development process mandated by the contemporary operational environment. In the process, conduct a review of specific components of training system (individual, leader, collective, and systems training) and determine an integrating strategy to achieve and sustain competency with the required training enablers.

3.3 Commander's Intent

Provide the education and training, consistent with training doctrine, to develop and sustain the Objective Force soldier and leader.

- Leverage technology for more effective and efficient training and skill proficiency.
- Maintain links between the unit, institution, and the soldier to sustain skill proficiency regardless of location or mission.
- Develop the future training architecture supporting combined arms training requirements mandated in system of systems developments across DTLOMS.
- Identify capabilities that facilitate self-development in a lifelong learning concept.
- Develop a recommended resource strategy prioritizing the training support enablers.

3.4 Training Support Enablers

The training support enablers of TRADOC lifelong learning, in order of priority, includes:

- *Assignment-Oriented Training* to get better trained soldiers and leaders to the field faster and to provide focused training for follow-on assignments to sustain the skills of a standards, competency based Army.
- *Simulations* to support "learning by doing" and reduce reliance on equipment for training at TRADOC Schoolhouses and other locations, to include equipment being fielded. Simulation is the key enabler for successful lifelong learning.
- *Resource Centers* to provide 24/7 reach back, access, and distribution of lifelong learning products and records.
- *Virtual Campuses* to provide TRADOC sponsored training locally.
- *Organizations* to support 24/7 lifelong learning for students worldwide.
- *Policies, Procedures, Practices, and Formulas* to support lifelong learning.

4.0 Service Support

The Resource Centers provide service support for lifelong learning.

The guidance included in this Implementation Plan is available for use by HQ TRADOC, Schoolhouses, Installations, and Agencies for developing POM submissions and conducting research to prepare tailored implementation plans.

5.0 Command and Signal

Command and control for the Implementation Plan will be accomplished using the existing TRADOC command organization and structure. An Executive Steering Committee at HQ TRADOC and each Schoolhouse, Installation, and Agency will manage the specifics of the implementation. In addition, functional Implementation Task Forces will be formed to prepare and supervise Action Plans.

Preface

The Enlisted MOSQ and Lifelong Learning Panel prepared the MOSQ and Lifelong Learning Implementation Plan. The *scope* of this Plan includes soldiers and leaders.

The panel used the following definitions for the plan:

- MOSQ = Military Occupational Specialty Qualified (from TR 350-6)
  - An IET soldier is MOSQ upon successful completion of all BCT and AIT/OSUT requirements. The MOSQ soldier can perform to standard the institutionally taught critical Skill Level 1 tasks identified by the MOS proponent.
  - The MOSQ soldier also demonstrates a willingness to live by the Army's core values, and has the ability to work effectively as a team member under stressful conditions.
  - The MOSQ soldier is prepared to immediately contribute to the successful accomplishment of their unit's mission, and can survive and operate effectively in a stressful tactical environment.
- Lifelong Learning – The ability of a soldier/leader to learn, grow, and achieve technically and tactically throughout a career, wherever they serve. Lifelong learning begins with recruiter contact and progresses until ETS/retirement. Lifelong learning is a mixture of traditional Schoolhouse resident education/training as well as education/training presented in other locations at the individual's teachable moment. Lifelong learning uses the most effective mix of locations, materials, and methods delivered just in time, on demand, and adaptive to soldiers and leaders. The organizational structure for lifelong learning is a combination of hardware, software, facilities, connectivity and people providing lifelong learning materials, information and support to the lifelong student, both active, Reserve Component (RC), and Department of the Army (DA) civilian.

The *mission* given to Panel 1 is to develop a Plan that describes:

- Innovative and advanced training support strategies leveraging current and evolving technology that more effectively and efficiently conduct technical training and skill proficiency in IET.
- Modifications required to the current training support model that will establish and enhance links between the unit, institution, and the soldier to sustain skill proficiency regardless of soldier and unit location or mission.

The Panel members determined that its implied mission include developing a Plan that represents *guidance* that can to be used by HQ TRADOC as well as TRADOC Schools, Installations, and Agencies for preparing and implementing *"tailored" plans* consistent with the overall TRADOC plan.

The *intent* the Commanding General TRADOC provided to the Panel for the MOSQ and Lifelong Learning Implementation Plan included examining our (Army) current *training support strategy* and *determine a new strategy providing individual, leader, and unit training competencies* required of a full spectrum Army. The strategy is to be driven by a combined arms system of systems DTLOMS development process mandated by the contemporary operational environment. The Panel will review the MOSQ component of our training system and determine an integrating strategy to achieve and sustain competency along with the required training enablers.

The *Panel members* are provided below:

Enlisted MOSQ and Lifelong Panel Members

Co-chairs	Panelists
• MG Cavanaugh, Fort Gordon • MG Barno, CG, Fort Jackson • Dr. Bob Helms, RTI	• COL(P) Byrne, DIR EPMD • COL Mills, ALMC • COL Rosner, DAMO-TRI • CSM Kelso, Fort Benning • CSM Haynes, CASCOM • CSM Farley, MANSCEN • CSM Iannone, Fort Rucker • CSM Martinez, Fort Jackson • CSM Emerling, DIV(IT) • SGM Parker, DAMO-TR • ARO Representative • Dr. Moses, ARI
Panelists • MG Stevenson, APG • Mr. Edwards, CASCOM • BG(P) Stanton, SSI • BG Roberts, ARNG • BG Mixon, Fort Knox • BG Nilo, Fort Leonard Wood • BG Castro, Fort Leonard Wood	

Advisor: LTG Cavin
Panel Lead: Mr. Seger
Facilitator: COL Johns
SMEs: Representatives Assistant Facilitators: TBD (ODCST and STRICOM)

The *specified tasks* addressed by Panel 1 include:

- Leverage technology to attain more effective and efficient technical training and skill proficiency
- Maintain links between the unit, institution, and the soldier to sustain skill proficiency regardless of location or mission
- Develop the future training architecture supporting combined arms training requirements mandated in system of systems developments across DTLOMS
- Identify within the plan capabilities that facilitate self-development in a lifelong learning concept
- Develop a recommended resource strategy prioritizing the training support enablers.

The Panel was provided a number of *issues* to be examined during the completion of its work. These issues have been examined and are included within the following MOSQ and Lifelong Learning Implementation Plan. The issues provided for examining included:

Issue 1: What are the training technologies that can be applied in IET that are more effective and/or efficient in preparing trainees for their duties in their first unit?

- What types of learning are enhanced by what type technologies?
- How does this dovetail with the IET Strategy Review?
- How far can we go with AOT?
- How do we sustain MOSQ after IET?
- What is needed from the Schoolhouse to sustain MOSQ?
- How do we maintain soldier links with the Schoolhouse?

Issue 2: What are the products soldiers coming out of IET need to take with them to sustain technical and skills proficiency?

- What is the "Soldiers Manual" of the future?
- Who writes them?
- What technologies can be leveraged to keep them current?
- What is the SQT of the future?

Issue 3: What needs to be changed to enhance the links between the institution, unit, and soldier to ensure there is a continuous educational capability to sustain the soldier's skill proficiency and self-development regardless of location or mission?

- How can we employ a PDA concept?

The Panel's *Plan of Attack* for completing its assigned mission included integrating existing documentation and plans such as the:

- Army Learning and Training Effectiveness Symposium Report
- University of Mounted Warfare, Phase I Design Report
- TRADOC Total Army Distance Learning Program
- USASC&FG Information Technology and Digital Training Masterplan

The Panel also worked closely with the *TRADOC Initial Entry Training Strategy Review Task Force* to ensure the emerging IET strategy dovetailed with the Plan. The documents associated with the Plan also were provided to members of the Panel and other interested individuals such as representatives of each TRADOC Schoolhouse not included as members of the Panel for review and comments integrated into the document, as appropriate.

The Panel Co-Chairs conducted an *open discussion* of the MOSQ and Lifelong Learning Implementation Plan with members of Panel 1 and other interested individuals at the TRADOC Senior Leaders Training Support Conference on 25 February 2002. The comments and recommendations received during these discussions were integrated into the Plan for *presentation* to the TRADOC Senior Leaders Training Support Conference conducted at Fort Lauderdale, Florida on 26 February 2002.

This MOSQ and Lifelong Learning Implementation Plan is organized as an Executive Summary and seven sections:

Section 1: Situation
Section 2: Mission
Section 3: Execution
Section 4: Service Support
Section 5: Command and Signal
Section 6: Enlisted MOSQ and Lifelong Learning Funding Strategy
Section 7: Implementation Plan

1.0 Situation

The Army is transforming itself to the Objective Force that is America's future full spectrum force: organized, manned, equipped and trained to be more strategically responsive, deployable, agile, versatile, lethal, survivable and sustainable across the entire spectrum of military operations from Major Theater Wars through Counter Terrorism to Homeland Security. TRADOC is transforming its education and training programs to support attaining the Objective Force.

The Army can expect to fight on battlefields that include the high likelihood of close combat in complex terrain, urban environments, as well as open and rolling terrain. The battlefield can be expected to include the presence of humanitarian issues across the full spectrum of conflict and the presence and influence of other Governmental, Private, International, Criminal, and Non-Governmental Organizations. There also is the presence of instant and global media that feeds an increased global interest in local operations of alliances and coalitions. The pervasive impact of advanced technologies on tactical operations in the operational environment also is an important element that has to be factored into planning and operations.

The operational concepts for this environment include:

- Strategic responsiveness and dominant maneuver.
- Situational dominance and information superiority.
- Effective response to a multi-dimensional adversary.
- Forcible entry at multiple locations – rapid transition to offense.
- Simultaneous, non-contiguous, distributed operations.
- Creating a "collective genius" through accelerated, collaborative planning.
- See, understand and act first; then finish decisively.
- Soldiers expert in warfighting and emerging technology.
- An enduring requirement for decisive close combat, firepower, maneuvers, and assault.

TRADOC will train Army soldiers and leaders to conduct operational maneuver from strategic distances and to create diverse manifold dilemmas for our adversaries by arriving at multiple points of entry, improved and unimproved. These leaders will be able to plan and lead Army units in forcible entry as necessary to overwhelm aggressor anti-access capabilities, and rapidly impose our will on the enemy. Army units under their leadership will arrive immediately capable of conducting simultaneous distributed and continuous combined arms, air-ground operations, day and night in open, close, complex, and all other terrain conditions throughout the battlespace. TRADOC will train leaders of units conducting joint and combined operations to *see first, understand first, act first, and finish decisively* at the strategic, operational, and tactical levels of operation.

The ability of Army units to dominate land operations and provide the decisive complement to air, sea and space operations is dependent on the ability of our soldiers and leaders to operate in this environment. TRADOC will provide the leader-oriented focused training necessary for the Army culture of a unified warrior who fights and wins on information age battlefields. These warriors are adaptive learners. They are able to overcome obstacles and have a strong commitment to success. Our soldiers and leaders will be taught to be self-reliant and to have a disciplined initiative that enables them to be self-motivated and proactive. Our professionals will develop a mindset that accepts deployments as a way of life. They will develop and possess sound judgement and superb leader potential, and will be comfortable with new technologies. These combined qualities enable them to dominate difficult situations.

Our education and training materials, tools, and methods will develop the soldier and leader abilities to:

- Create synergy within the Joint Task Forces by controlling ground, where people and political authorities reside
- Defeat our opponents in their protective sanctuaries or by forcing them into the open where they can be destroyed with joint fires.

We will prepare our soldiers and leaders to understand and be able to apply psychological effects produced by the power and precision of Army units to deter hostile acts, both prior to deployment and during the stability phases of operations. TRADOC's job is to provide the education and training for Army soldiers and leaders, disposed across the battlespace yet operationally integrated through an information network, to provide the Joint Force Commander situational dominance in applying lethal and non-lethal effects with unprecedented precision across the spectrum of military operations.

The Army's soldiers and leaders, enabled by advanced technologies, will provide revolutionary increases in operational capability. We will train them to operate the information systems and networks to provide dominant situational understanding, enabling combined arms units to conduct simultaneous, non-contiguous, distributed operations. TRADOC will provide Army soldiers and leaders with the foundations necessary to integrate and use weapons technology breakthroughs for significantly greater tactical, operational, and strategic lethality from smaller, more agile forces. We will prepare these soldiers and leaders to use platforms in an arrangement of system-of-systems technologies for decisive maneuver, horizontal and vertical, day and night, in all terrain and weather conditions.

These technology advancements, supported by a matching TRADOC education and training base, will give Army units the lethality and survivability needed to deliver full spectrum dominance. They will have the versatility to change patterns of operation faster than the enemy can respond, and the agility to adjust to enemy changes of operation faster than he can exploit them. Advanced technologies, coupled with TRADOC education and training, empowers our soldiers and leaders to achieve situational dominance, creating a powerful construct for the use of force. We will prepare our soldiers and leaders to conduct operations that develop situations out of contact. They will be trained to maneuver to positions of advantage; engage enemy forces beyond the range of their weapons; destroy them with precision fires and maneuver; and tactically assault enemy capabilities or locations at times and places of our choosing.

At its most fundamental level, war will continue to be a brutal contest of wills. TRADOC will provide the education and training that prepares our soldiers and leaders to win this contest of wills and win decisively to dominate our enemies. Potential opponents must be convinced that we are able to break them physically and psychologically and that we are willing to bear the cost of doing so. We will accomplish this by developing a warrior ethos within our soldiers and leaders that includes a willing to sacrifice self, being emotionally tough, able to manage physical/mental stress, being tenacious and physically tough and rugged. Our training will develop these individuals as calculated risk takers, to be aggressive, to be able to complete the mission in the face of adversity, and to be dominated by the warrior spirit

For some opponents, mere punishment from afar is not enough. With these adversaries, the only way to guarantee victory is to put the boots of our warriors on his ground, impose our soldiers, leaders, and units on his territory, and destroy him in his sanctuaries. And, when we put our soldiers and leaders in the mud, these units must be organized, manned, equipped, and trained to do the job decisively. We must prepare and resource them to overcome both the risk of mission failure and the risk of exorbitant casualties even through the mission is successful. This condition is the foundation of decisive operations.

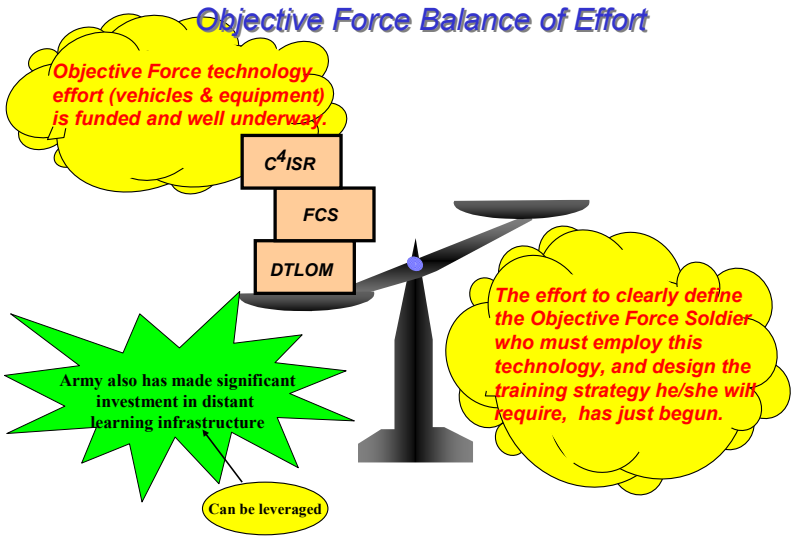
The enduring hallmark of the Army will continue to be soldiers and leaders. At the heart of the success in battle are soldiers and leaders --Warriors --who will go into harm's way to impose our Nation's will on any adversary. TRADOC must provide the education and training that enables them to live Army values, be disciplined, be physically tough and be mentally conditioned for combat, have perseverance, be competent in our doctrine, and possess the will to win. Into their hands, the Army will put the world's finest warfighting technology and TRADOC will prepare them to be experts in the use of emerging technologies and trained for the full range of operations. We will provide the education and training foundation that provides them the moral determination to kill our enemies as readily as they are willing to help alleviate the suffering of innocents.

TRADOC education and training includes the skills for rapid tactical decision-making. We must develop intent-centric leaders who are able to change from physical rehearsals to virtual ones and from static command posts to situational awareness on the move. We must teach and support their development as adaptive and self-aware leaders who are able to master transitions in the diversity of 21st Century military operations.

TRADOC cannot expect to meet the demands described above for information age soldiers and leaders by increasing the education and training infrastructure of the Schoolhouse to a level that meet these demands. An attempt for continuing "business as usual" will result in the mismatch of an outdated education and training base trying to support a forward looking Objective Force.

The complexity of the hardware, software, and operating procedures of systems and networks is resulting in longer resident courses. The increased length is requiring soldiers and leaders to spend an unacceptable length of time in the formal Schoolhouse to acquire skills required for operating and maintaining systems and networks. Furthermore, the student skills learned during the early part of the course likely would have suffered considerable decay by the time he or she reaches the unit of assignment. The traditional model of a student returning to the Schoolhouse is becoming less of a viable option and would result in unacceptable violations in the Band of Excellence. The learning of new skills required by rapid changes of technology and frequent refreshing to counter the perishable nature of these skills would require the soldier and leader to be away from the unit an unacceptable amount of time. It also would be very costly over an extended period.

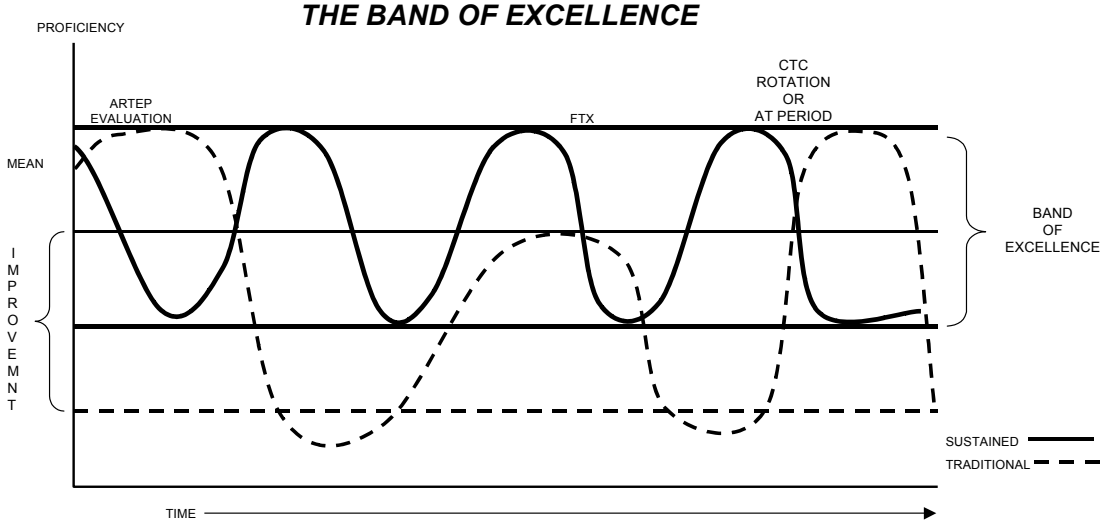
As illustrated, the Army has significant investments in Objective Force technology efforts, to include providing funding for vehicles and equipment.



The Army also has made significant investment in The Army Distance Learning Program to provide much of the infrastructure necessary for successful lifelong learning. We are now about defining the Objective Force soldier and leader who will use these technologies and putting into place a training strategy to develop and sustain the skills required for fighting and winning on these battlefields. In the process, TRADOC can take advantage of the intersection of major capabilities that include:

- Communication infrastructure to support access and distribution of education and training materials and learning and student management.
- Infusion of technology based equipment, weapons, components, and supporting systems into the structure.
- Computer hardware and software that make it possible to provide these capabilities to individual soldiers, leaders, and units worldwide.
- Software tools and methods to support cost effective simulations that provide "learning by doing" on-demand, at the location of the soldier worldwide.
- Soldiers and leaders who are capable and comfortable using web-based materials and technologies for education and training and distributed education methodologies.

These capabilities and methodologies will enable TRADOC to meet its education and training responsibilities. They are consistent with our training doctrine describe in FM 25-100, *Training the Force*, for maintaining soldiers, leaders and the units in which they serve within the Band of Excellence.



The path ahead is exciting and full of opportunities. It includes updating the education and training base to match the Objective Force. It also includes continuing to train the **science** of operating and maintaining systems as well as the **art** of employing and fighting systems and networks. As we move along this path, we will leverage existing programs such as The Army Distance Learning Program and commercial vendors such as those providing instruction for software programs. We will also leverage available lifelong education, training, and distribution technologies and methodologies to:

- Provide access for Army soldiers and leaders worldwide to education and training materials and information delivered on-demand at the individual's location
- Formally include individuals at other locations as students with the same rights and privileges as individuals located at the Schoolhouse
- Establish and support a network of global virtual campuses.

In the process, the partnership of TRADOC and field units is strengthened and the presence and influence of TRADOC is extended beyond the physical boundaries of our Schoolhouses to wherever there are soldiers and leaders participating in education and training, and/or using the available information. The development of tough, resilient, resourceful, and agile professionals starts at TRADOC. Our soldiers, equipped with the best technologies and equipment our Nation can provide and led by the most competent leaders we can grow, are the ultimate guarantors of America 's interests around the world.

2.0 Mission

The TRADOC mission is to *Access* the Force, *Train* the Army, *Set* the Army's Standards and Requirements, and *Perform* Command Assigned Activities and Installations. TRADOC prepares the Army for Decisive Victory in the full range of required Joint and Coalition Operations through:

- Accessing and training the Army's soldiers and leaders and providing disciplined combined arms training environments for units
- Balanced development of concepts, requirements, and products in doctrine, training, leadership, organizations, materiel, and soldiers
- Providing readiness infrastructure for training and projecting Army forces
- Building a command environment that promotes safe, values-based, and disciplined operations

The TRADOC command priorities for performing its mission are to:

- Remain committed to Army near-term readiness by training the load, accessing the force, and providing mission support required for training the load.
- Sustain TRADOC's readiness capability to perform our mission by maintaining core requirements for the daily business of TRADOC (FM 25-100, *Training the Force*), improving soldier quality of life, and maintaining and operating installations and facilities.
- Prepare the Army for the future by developing soldiers, leaders, doctrine, materiel, training, and organizations to meet tomorrow's land combat challenge.

3.0 Execution

3.1 Concept of Operation

TRADOC will integrate and leverage existing personnel, materials, methods, facilities, and infrastructure with emerging technologies, methodologies and evaluations to provide lifelong learning for Objective Force soldiers and leaders. Where necessary, TRADOC will add new capabilities to realize the full potential of lifelong learning.

3.1.1 Commander's Guidance

We will examine the current training support strategy and determine a new strategy for providing individual, leader, and unit training competencies required of a full spectrum Army. This new strategy:

- Will be driven by a combined arms system of systems DTLOMS development process mandated by the contemporary operational environment (COE).
- Provide the guidance necessary for HQ TRADOC, Schoolhouses, Installations, and Agencies to develop and prepare "tailored Implementation Plans" that are consistent with the TRADOC MOSQ and lifelong learning implementation plan.

3.1.2 Commander's Intent

The Commander's intent is for TRADOC to develop and execute a MOSQ and lifelong learning implementation plan that represents a strategy that enables the education and training base to be consistent with and meet the needs of the Objective Force. This strategy will:

- Provide better learning to improve individual soldier and leader skill proficiency.
- Deliver education and training at the location of the student worldwide to sustain skill proficiency.
- Reduce time for and number of students trained in the Schoolhouse and these associated costs.
- Use at least 60% less equipment for training at the Schoolhouse.
- Provide greater student throughput with current facilities.
- Increase Schoolhouse surge capacity.
- Use fewer Schoolhouse brick and mortar facilities per student to reduce OMA and OPA costs.

The MOSQ and lifelong learning strategy also will enable TRADOC to provide better support and to strengthen its partnership with field commanders and their units. The strategy includes a new level of commitment for:

- TRADOC to deliver products and services that are valued and sought by its customers, the lifelong learning students and their chain of command, to help them learn, grow, and achieve; this goal includes helping them acquire skills to perform immediate tasks better.
- Lifelong learning soldiers and leaders as well as their chain of command to support the participation of these individuals; for example, valuing and providing the time required for participating.

The MOSQ and lifelong learning strategy provides the training competencies for soldiers, leaders, and units required of a full spectrum Army across the DTLOMS, and the contemporary operational environment mandates that. The intent for lifelong learning is to provide the education and training, consistent with training doctrine, to develop and sustain the Objective Force soldier and leader by:

- Leveraging technology for more effective and efficient training and skill proficiency.

- Maintaining links between the unit, institution, and the soldier to sustain skill proficiency regardless of location or mission.
- Establishing the training architecture supporting combined arms training requirements mandated in system of systems developments across DTLOMS.
- Providing capabilities to facilitate self-development in a lifelong learning environment.
- Establishing a supportable resource strategy for the training support enablers.

It is the intent of the TRADOC's MOSQ and Lifelong Learning strategy to improve readiness by:
- Getting better trained soldiers and leaders to the field faster
- Providing better education and training content to the field and the Schoolhouse
- Supporting better sustainment training to reduce skill decay
- Providing training on-demand at the location of the soldier for new skills and technologies
- Requiring less time in the Schoolhouse to free up more time for assignments in the field.
- Using less equipment and fewer facilities for training
- Making better use of instructors and facilities
- Increasing the surge capacity of TRADOC Schoolhouses
- Supporting links between soldiers and leaders worldwide with the TRADOC Schoolhouse as the "Professional Home" of these soldiers and leaders

The Commander's intent for adopting the TRADOC MOSQ and lifelong learning strategy includes the need for leveraging major capabilities that now make it possible to implement lifelong learning for a globally deployed force. Examples of these capabilities include:
- Communication infrastructure to support access and distribution of education and training materials, and learning and student management.
- Infusion of technology based equipment, weapons, components, and supporting systems into the structure.
- Computer hardware and software that make it possible to provide these capabilities on-demand to individual soldiers, leaders, and units worldwide.
- Software tools and methods to support cost effective simulations that provide "learning by doing" on-demand, at the location of the soldier worldwide.
- Soldiers and leaders who are capable and comfortable using Web based materials and technologies for education and training, and distributed education methodologies.

3.2 MOSQ and Lifelong Learning Strategy

The major elements of the MOSQ and lifelong learning strategy are illustrated below.

The strategy provides for a seamless progression of learning starting with the contact of the Recruiter with the individual and continues through entry skills acquired during basic and MOS skills acquired during advanced individual training. The strategy continues through the career of the Objective Force soldier and leader. The training is delivered by all means available, to include TRADOC Schoolhouses, virtual campuses, and units. It seeks to immerse individuals in the environmental conditions of the operational Army to the extent possible. It is based on established standards and competencies. It provides the training necessary for MOS qualification and sustainment, as well as developing the "Warrior." The Assignment-Oriented Training element prepares the soldier and leader for the next assignment as well as providing refresher training.

The lifelong learning model included within the strategy leverages technologies as the basis for developing, presenting, distributing, measuring effectiveness, and managing learning. This model, illustrated below, was developed at the Army Learning and Training Effectiveness Symposium conducted 23, 24, and 25 February 1999 in Hampton, Virginia, and recommended for adoption in the Symposium Report, dated 30 March 1999. It integrates education and training content/materials with environments, and evaluations to provide effective learning of knowledge, skills, and attributes required of Objective Force soldiers and leaders.

The lifelong model includes a mixture of traditional Schoolhouse instruction as well as instruction presented at other locations. The location of the instruction becomes progressively less relevant as the learning approach matures and the Army culture evolves to accept it. As the student advances in experience, rank and responsibilities, the education focus is less on knowledge and basic skills to more on attitudes and strategic skills required for accessing and using technology assisted learning materials just-in-time and on-demand at the individual's location.

The model is a coherent learning approach that provides customer-focused, technology assisted lifelong learning for the Objective Force. This approach considers all members of the Force, to include civilian employees, to be engaged in lifelong learning wherever they are located. It is a total approach that includes instruction and materials delivered in synchronous and asynchronous modes, just-in-time, on-demand, and adapted to students involved in formal school programs and courses as well as practical day-to-day duties and activities. A primary goal of lifelong learning is to minimize the differences in learning that takes place in the Schoolhouse and other locations; and, in fact, implement instruction using the most cost-effective mix of locations, materials, and methods.

The MOSQ and lifelong learning strategy:

- Is consistent and complementary with industry and academia.
- Integrates and leverages information age technologies, advanced education and training methodologies and technology supported evaluation practices.
- Includes procedures to validate learning.
- Uses simulation technologies and computer-based IMI to support training requirements for technical and tactical training.

Lifelong learning "represents a real change" in the way business of education and training is conducted. It begins when the Recruiter makes contact with the individual and continues when soldier enters the Army and throughout the military career. Lifelong learning also can be made available to Army family members, alumni and other interested supporters. The approach impacts the relationship of the Schoolhouse and student. The Schoolhouse accepts and assumes the same responsibility for students at all locations, which impacts the design of training materials, the focus and responsibilities of staff and faculty, student records, funding allocations, and other factors associated with learning and certifications of students. It also requires that students accept and assume higher levels of personal responsibility for his or her education. Distance learning and web based education and training materials are tools of lifelong learning (are subsets of lifelong learning).

The TRADOC MOSQ and lifelong learning strategy also includes a cultural shift in the Army. This cultural shift includes leaders at all levels understanding and making the linkage for the value added of lifelong learning to their mission requirements, and supporting the participation of their soldiers and subordinate leaders. TRADOC Schoolhouses can facilitate this cultural shift by:

- Including it in their instruction to embed it in soldiers and leaders
- Developing and providing products and services that are valued and sought by their customers, lifelong students and their chain of command, to help them perform better, to include helping to perform the immediate tasks.

The cultural shift also includes TRADOC and requires flexibility and forward thinking at all levels. Examples of the shift include:

- New thinking about what learning is about and where it takes place
- What TRADOC teaches in the proponent Schoolhouses
- What is being provided to the field (for example, courses or learning)
- Relationships with students in other locations
- Responsibilities to the soldiers and leaders who are engaged in lifelong learning.

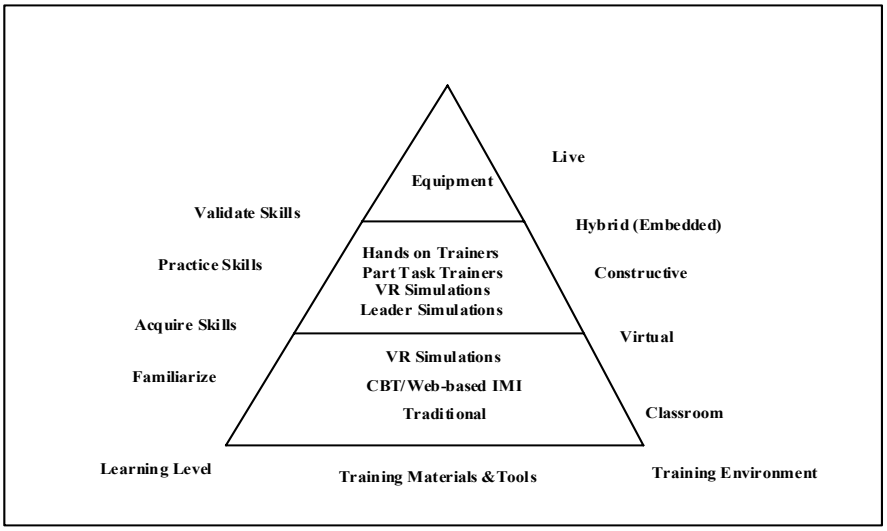
The MOSQ and lifelong learning strategy seeks to leverage technologies for more effective and/or efficient education and training. The key enabling MOSQ and lifelong learning technologies include:

- *Simulations* to provide learning by doing.
  - Simulation is the key training support enabler for successful lifelong learning that includes Assignment-Oriented Training.
- *Knowledge, Skills, and Attributes* to prepare the soldier and leader for successful lifelong learning.
- *Human Factors* to train the soldier and leader to perform as a team member.
- *After Action Reviews* to provide feedback and the basis for improvement.

- *Student Management* to establish the individual lifelong learning training record.
- *Information Technology* to enable the soldier, leader, and Schoolhouse to conduct lifelong learning.

The strategy, as illustrated below, matches training technologies, environments, materials and tools with types and levels of learning to achieve an optimal mix appropriate for the learning requirements.

Matching Training Technologies, Environments & Materials/Tools with Types/Levels of Learning



The approach integrates a mixture of traditional methods that quickly give way to interactive virtual and constructive environments with validation taking place in constructive and, when required, in live environments to achieve cost-effective training. The rapid increase in the speed and graphics capabilities of personal computers supports the wider use of interactive simulations for training. The TRADOC Schoolhouse is now able to export simulations that provide effective learning as training material to virtual campuses and other locations, to units in the field, as well as to individual soldiers and leaders.

Triangle illustrates the training technologies that can be applied in IET that are more effective and/or efficient in preparing trainees for their duties in their first unit. The triangle also illustrates the types of learning that are enhanced by the different types of technologies. It dovetails with the IET Strategy review.

The MOSQ and Lifelong Learning strategy seeks to focus the acquiring of cognitive skills that are well suited for computer-generated materials such as simulations in the virtual environment. Motor skills normally require the use of physical training materials such as hardware trainers or equipment for validation of training. The strategy of matching training technologies, environments, materials and tools with types and levels of learning supports the recommendations and dovetails with the Initial Entry Review for training the Objective Force soldier and leader.

These and other technologies are embedded in the MOSQ and lifelong learning training support enablers that include, in priority order:

- *Assignment-Oriented Training* to:
  - Get better-trained soldiers and leaders to the field faster.
  - Provide focused training for follow-on assignments to sustain the skills of a standards/competency based Army.
  - Reduce turbulence resulting from PCS moves and/or lengthy deployments.
- *Simulations* to support "learning by doing" at TRADOC Schoolhouses and other locations, to include being able to provide training for equipment as it is fielded.
- *Resource Centers* to provide 24/7 reach back, access, and distribution.
- *Virtual Campuses* at locations with high concentrations of soldiers and leaders to provide TRADOC sponsored training locally.
- *Organizations* to support 24/7 lifelong learning for students worldwide.
- *Policies, Procedures, Practices, and Formulas* to support 24/7 lifelong learning

These MOSQ and lifelong learning technologies and practices establish the TRADOC Schoolhouse as the professional home for the soldier and leader. This relationship supports links with these individuals to sustain solider skill proficiency and self-development regardless of location or mission.

3.3 Lifelong Learning Customers

The customers of MOSQ and lifelong learning include Army soldiers, leaders, and the civilian workforce worldwide. The strategy is consistent with the expectations of these students in that it:

- Supports individual creativity, team collaboration, peer review, and instructor led education.
- Takes advantage of the increased effectiveness realized from the interactions and collaboration among students and instructor led instruction.

While there are differences in the abilities of lifelong learning students to work with technologies; in general, they:

- Are more diverse and more comfortable with technologies than previous generations.
- Learn best when they know what they are accountable for, how they fit into the mission, and when they are confronted with real life situations (trainable moment).
- Are comfortable learning as a member of a team and respond well to peer reviews.
- Are able to develop various levels of social relationships during the use of communications networks such as the Internet.

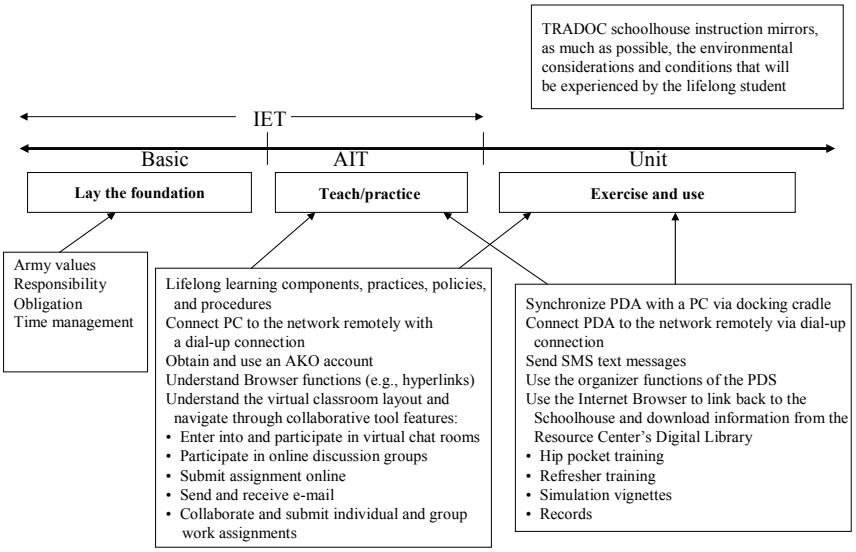
Just as industry must satisfy its customers, the education and training methods adopted by TRADOC must be consistent with the expectations and needs of its customers, the lifelong student. These methods should support individual initiative, team collaboration, and instructor led education. They should take advantage of the increased effectiveness realized from the interactions and collaboration among students and instructor led instruction. Technologies can and should be used to maintain satisfactory levels of learning effectiveness that results from student-instructor interactions, even for students at virtual campuses and other locations.

It is important that TRADOC Schoolhouses delivering lifelong learning understand and satisfy the needs of these customers. Motivated students are good candidates for technology-assisted learning materials and methodologies. TRADOC Schoolhouses will need to identify student responsibilities for technology assisted lifelong learning. The MOSQ and lifelong learning technologies can be used to maintain satisfactory levels of learning effectiveness that results from student-instructor interactions, even for students at other locations.

The IET Review and the MOSQ and Lifelong Learning Panel examined the Lifelong Learning Knowledge, Skills, and Attributes of Objective Force soldiers and leaders. This Review and Panel have determined that is important to equip soldiers and leaders by developing and training the Knowledge, Skills, and Attributes required for soldiers and leaders to be successful lifelong students. It would be an error to assume that soldiers reporting to their units are prepared to function as successful lifelong students

The MOSQ and Lifelong learning strategy includes helping soldiers and leaders understand and accept their responsibilities as lifelong long learning students. This assistance cannot be left to chance; it must be part of the instruction provided in the Schoolhouse. The TRADOC Schoolhouse should organize and present its instruction in a way that mirrors, as closely as possible, the environmental considerations and conditions the student can be expected to encounter in the field environment. The graphic below illustrates how the MOSQ and lifelong learning strategy lays the foundation for developing these skills in the Schoolhouse so the student will have them when they report to their initial assignment.

Acquiring and Sustaining Lifelong Learning Knowledge, Skills and Attributes



The above illustration also describes how the MOSQ and Lifelong Learning Strategy prepares the student to use the communication infrastructure and computers, to include the PDA, for accessing and using lifelong learning materials.

In addition to equipping soldiers and leaders with the skills required for lifelong learning, the Army will also need to identify the incentives that motivate lifelong students to successfully complete technology-assisted learning and to routinely use these incentives as part of their everyday real life experiences. Examples of these incentives could include:

- Personal satisfaction of growing professionally
- Assuming positions of greater responsibility
- Assignments to duty positions
- Support for promotions
- Financial incentives for successfully completing training

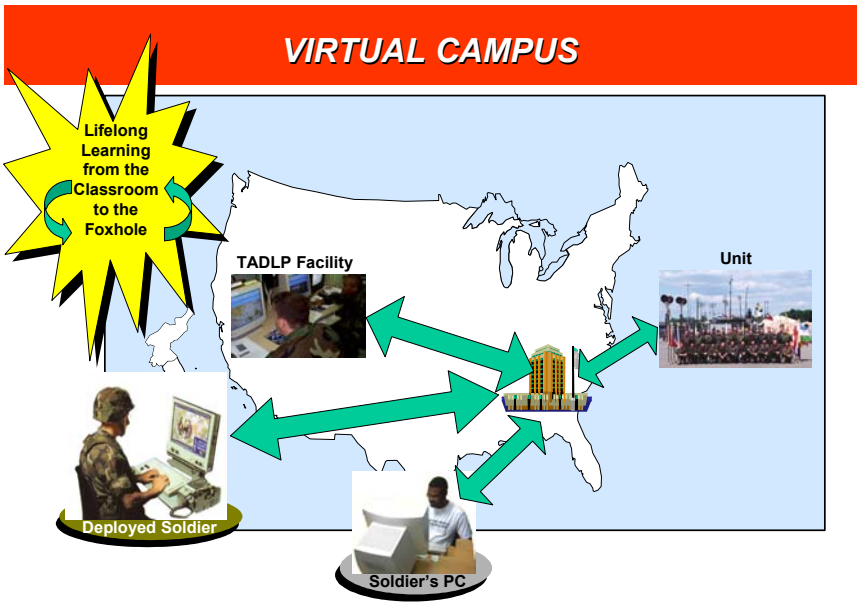
3.4 TRADOC Schoolhouse

The TRADOC Schoolhouse, in the MOSQ and Lifelong Learning Strategy, is the "professional home" or the "Center of the Professional Universe" for lifelong learning soldiers, leaders, and their families. The influence of this "professional home" is strengthened with linkages of students and the Schoolhouse for lifelong learning and assistance. The Schoolhouse:

- Facilitates and fosters lifelong professional and personal relationships.
- Provides 24/7 lifelong learning, materials, information, and support to their respective functional community, to include active and reserve components as well as alumni.
- Assumes the same responsibility for all students, regardless of their location. In the process, any differences between students located at the Schoolhouse and other locations are eliminated.

Lifelong learning enhances the link between the institution, unit, and soldier to ensure there is a continuous educational capability to sustain skill proficiency and self-development regardless of location or mission.

The MOSQ and Lifelong Learning Schoolhouse includes a network of virtual campuses to extend and provide TRADOC presence and sponsored education and training at the student's location. The virtual campus is a *training support enabler* of the strategy. Locations with high concentrations of soldiers and leaders and/or that have special needs, as illustrated below, are priority sites for virtual campuses.



The purpose of the virtual campus is to provide a mechanism or facility where soldiers and leaders can receive standardized individual, collective, and self-development training as part of the lifelong learning process. The virtual campus enables the TRADOC Schoolhouse to deliver training to soldiers and leaders without them having to return to a proponent school. This capability:

- Supports the Assignment-Oriented Training and skill sustainment processes by allowing soldier's to complete MOSQ training from any location.
- Enables soldiers and leaders to access new materials for use in their duty assignments.

The physical locations of virtual campuses in the near term could be those sites sponsored by The Army Distance Learning Program (TADLP), with the final goal of delivering the training to the soldier and unit anytime, at any place. The virtual campus:

- Will deliver standardized (proponent/Army) courseware to the total Army (AC/RC).
- Is a major step in delivering lifelong learning materials, management, and processes to the locations of soldiers and leaders.
- Will use emerging technologies to compliment the TADLP, making education and training more accessible at the teachable moment.

These virtual campuses represent a major step forward in taking lifelong learning to students, soldiers, and leaders. They complement education and training delivered by distance learning methods to provide a range of options for the student. In the process, the proponent Schoolhouse is making education and training more accessible to a larger number of students, resulting in a better-educated and more productive population. The lifelong learning model, with virtual campuses and other relationships, parallels university systems across the nation (for example, the University of North Carolina system) for delivering instructor led education and training to locations with concentrations of student populations. The same logic is applicable for Army lifelong learning students, who mirror many of the same characteristics as the civilian student population, particularly those pursuing technical degrees.

The virtual campus enables TRADOC sponsored learning to be delivered at the location of the soldier and leader as needed. This capability improves readiness by providing a continuous training environment throughout a career and reducing the time the soldier and leader are away from unit/home. The virtual campuses afford significant training cost savings and efficiencies by use of multimedia, quicker and wider dissemination of updated training materials, and standardized AC/RC training.

3.5 Schoolhouse Faculty

The MOSQ and Lifelong Learning strategy includes providing training necessary for adapting and transitioning the current faculty to work successfully in this environment. The strategy includes opportunities for the professional growth of Schoolhouse faculty just as it does for the soldiers and leaders of lifelong learning. TRADOC leaders should include faculty members during the development of their implementation plans to:

- Get the benefit of their experience.
- Help them understand the strategy is not a threat; but represents opportunities for professional growth and acquiring new skills that are transferable to the civilian sector.
- Get their buy-in.
- Help prepare them to make a positive contribution to successful lifelong learning.

The role of the instructor will evolve to that of a facilitator for students who are “learning by doing.” In many ways, the instructor and first line supervisor roles will converge. The Schoolhouse will need to:

- Develop and use criteria to select faculty.
- Provide training to prepare faculty facilitators.
- Use simulations and technology-based aids such as intelligent coaching and tutorials to support faculty facilitators and minimize the impact of less face-to-face student-instructor interactions.
- Provide training and support materials for use by first line supervisors in the field.

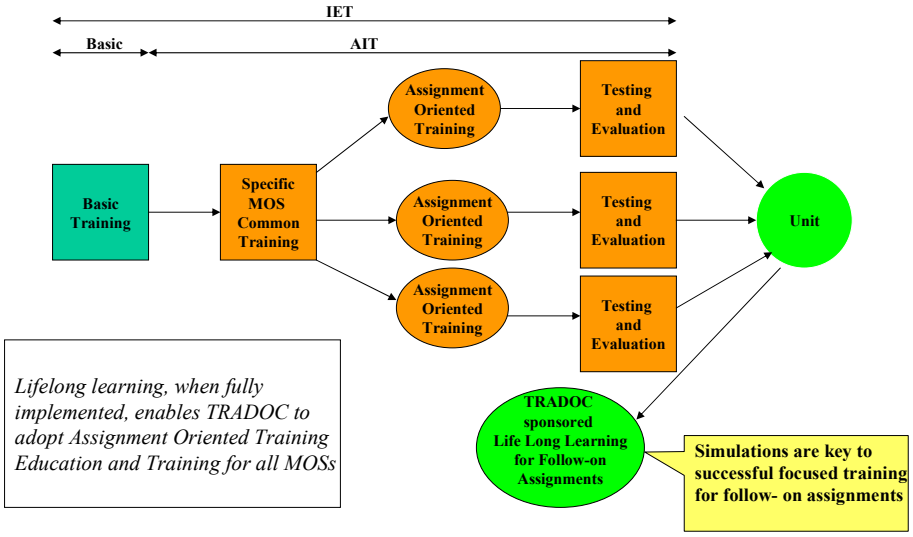
The MOSQ and Lifelong Learning strategy includes interactions of instructors/facilitators at the Schoolhouse with students in other locations such as field units a part of the normal schedule to reap the mutual benefits of these interactions. These interactions will help keep the Schoolhouse instructors/facilitators more current on issues of concern in these other locations, resulting in more relevant training. The students in these other locations will benefit from interactions with the experienced instructor, and possibly other students located in the Schoolhouse. Clearly, students in the Schoolhouse could expect to benefit from interactions with students in field locations. The MOSQ and Lifelong Learning strategy recommends integrating students from other locations into the Schoolhouse instructional organizations as part of the student load and not establishing a separate organization for managing them. The Resource Center described in Section 4.0 below can assist in coordinating the interactions of students at other locations with Schoolhouse instructors/facilitators.

The goal of lifelong learning is to use technology to provide better education and training; it is not to make faculty facilitators technologists. The Schoolhouses should ensure a burden for using the technology is not placed on staff at the expense of these individuals being first and foremost a qualified teacher. Realizing this goal requires that a technology based Resource Center be established and made available to provide this support, to include scheduling and coordinating students and instructors' interactions. Section 4.0 describes the Resource Center recommended at the proponent Schoolhouses.

3.6 Assignment-Oriented Training

The TRADOC Schoolhouse prepares students to maintain and fight technology-based systems that are highly technical and complex. These skills are essential for realizing Objective Force capabilities that tilt the battlefield in favor of U.S. military forces. They are often unique for the specific units to which soldiers and leaders are assigned. The technologies and COTS based systems are being integrated in these systems at a rate of development and change unparalleled in history. Soldiers and leaders have to simultaneously operate, maintain, and fight the current systems and networks while new technologies and COTS are being introduced and integrated into the force; an example of this phenomena is the digitization of III Corps forces at Fort. Hood, Texas. These skills represent a higher order of magnitude in complexity, they are perishable and they have to be continually updated. They also are highly desirable in the civilian work force and, once they are obtained, provide these solders and leaders a viable alternative to continuing their military service. As a result, there may be considerable turnover in key technical skills. This turnover imposes an even greater student throughput requirement on the Schoolhouse. The just-in-time training approach of lifelong learning recognizes this situation and offers Assignment-Oriented Training, as illustrated below, as a *training support enabler* to reduce the impact of this challenge.

TRADOC Assignment Oriented Training Education & Training Model



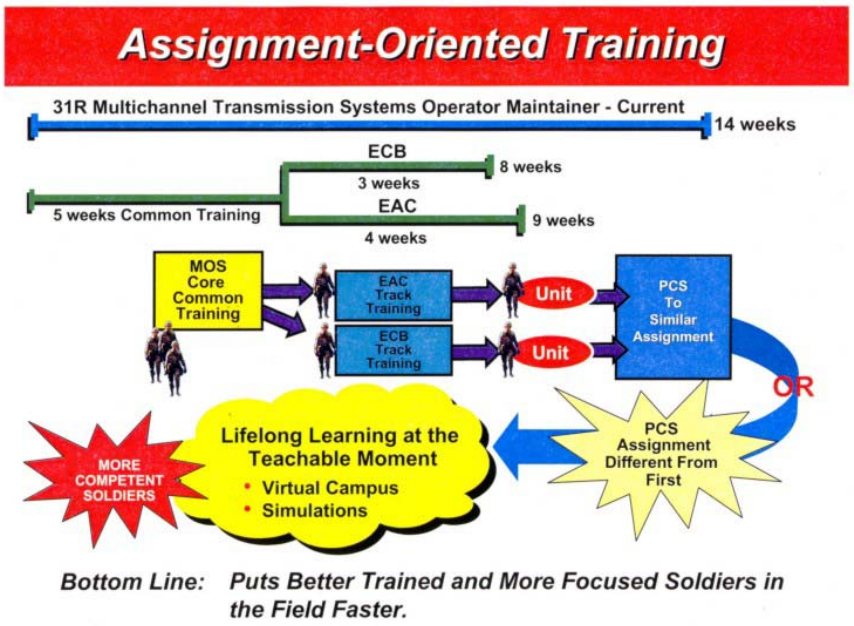
Getting better-trained soldiers and leaders to the field faster is one of the objectives of the MOSQ and Lifelong Learning strategy. Assignment-Oriented Training is one of the principal methods by which TRADOC can accomplish this objective and can provide focused training for the follow-on assignments the lifelong student will experience. The model can be phased to enable TRADOC Schoolhouses to fulfill their responsibilities to their functional branch communities. The strategy, when fully implemented, enables TRADOC to adopt Assignment-Oriented Training for all MOSs, recognizing that the return on investment can be expected to vary between MOSs.

The Assignment-Oriented Training model is designed to provide knowledge based training common to all soldiers and leaders. This model is consistent with education and training trends of academia and industry. It includes education and training of theory and principles in knowledge based training as well as embedding and reinforcing theory and principles as part of MOS Specific Training at the "teachable moment." The process includes testing and evaluation to verify soldiers and leaders arrive at the unit trained, and it provides "tracked" Assignment-Oriented Training tailored to the next assignment, to include follow-on assignments. Assignment-Oriented Training includes training provided at the TRADOC Schoolhouse during AIT and for follow-on assignments that will be experienced by soldiers and leaders during an Army career.

Assignment-Oriented Training that prepares soldiers and leaders for their initial assignment and provides focused training for follow-on assignments can be applied to designated TRADOC MOSs. The application to some MOSs may not get soldiers and leaders to their first unit faster; but the model can be used to ensure they are prepared for their initial assignment and for follow-on assignments.

The Assignment-Oriented Training during AIT is designed to provide the soldier and leader training that is common to their MOS plus training that is specific to their initial assignment. The training provided by TRADOC for follow-on assignments prepares the soldier and leader for their subsequent assignments. Examples of this training include equipment items that were not taught during AIT or updating the soldier or leader on technologies, equipment, doctrine, tactics, techniques, and procedures that have been introduced into the force. Indeed, the availability of trainers and simulations that are in configuration with equipment and systems and that enable the soldier and leader to "learn by doing" are basic to the realization of successful Assignment-Oriented Training. The methods and locations for completing the follow-on training can vary and include the unit, virtual campus as well as the TRADOC Schoolhouse.

The following is an example of how the USASC&FG's implementation of Assignment-Oriented Training for MOS 31R, Multichannel Transmission Systems Operator Maintainer.



This model reduces the current resident course of 13.6 weeks to 8.6 weeks for those soldiers being assigned to Echelon Corp and Below (ECB) units and 9.6 weeks for those soldiers being assigned to Echelon Above Corps (EAC) units. The course includes 5.2 weeks of training common to the MOS with soldiers then being provided "tracked" training designed specifically for their next assignment (3.4 weeks for ECB assignments and 4.4. weeks for EAC assignments). The model includes providing focused training for soldiers to prepare them for follow-on assignments to units that are different than their initial assignment (for example, a soldier assigned to a ECB unit for the initial assignment and that is moving to a EAC unit as a follow-on assignment. There are a number of options for delivering this focused follow-on training with the intent of not returning the soldier to the proponent school.

The Assignment-Oriented Training education and training model is flexible. It does not assume one size fits all and can be tailored to meet the needs of individual MOSs, soldiers and leaders. These changes include those resulting from the continued insertion of new technologies and the adopting of new missions that impact soldiers and leaders. The model supports training on complex systems for an increased student throughput that can be expected as the Army, other

military services, and joint commands and agencies continue fielding more technology-based systems across the force. The model puts soldiers and leaders in the field faster with knowledge of theory and principles and who have received training "tailored" to the first unit assignment.

The placing of trained soldiers and leaders helps remove the need for unit schools and universities currently used in field units and helps support an improved partnership of the TRADOC Schoolhouses with these units. The applications can and should include leadership schools as well as partnership with units in the field.

Assignment-Oriented Training contributions to readiness include:

- Getting better-trained soldiers and leaders to the field faster.
- Increasing the amount of time soldiers and leaders are available for duty in field units.
- Providing "tracked" or focused training for follow-on assignments to provide new skills, updates, and to sustain skills of the standards, competency-based Army.

There are two major traditional drawbacks of this approach; both of which can be solved. The first drawback is the need for additional training when the soldier or leader is assigned to a different unit – follow-on assignment. However, new training methods and technologies are alleviating this drawback. The MOSQ and Lifelong Learning strategy includes providing focused training to prepare the individual for follow-on assignments and focuses on implementing methods and technologies that make Assignment-Oriented Training practical. The use of PC based simulations that can be made available to these soldiers and leaders can be a major element in providing follow-on training.

The second drawback is the ability of the Army personnel system to support Assignment-Oriented Training. The TRADOC Commander has endorsed Assignment-Oriented Training and the Army PERSCOM has agreed to support AOT pilots that are part of the USASC&FG Information Technology and Digital Training Masterplan to determine methods for implementing this approach. The first AOT pilot for the 31R Signal MOS will be completed in 2nd Quarter FY 2002 and provides a baseline for examining the potential of AOT at other TRADOC Schoolhouses.

Lifelong learning provides the strategy for sustaining MOSQ after IET and for maintaining solider linkage with the Schoolhouse. The Schoolhouse:

- **Provides 24/7 links through the Resource Center to soldiers and leaders worldwide.**
- **Creates and provides access to this content on-demand at the location of the individual.**
- **Maintains virtual campuses.**
- **Provides access to the instructors/facilitators.**

3.7 MOSQ and Lifelong Learning Education and Training Content/Materials

The student population served by TRADOC is expected to include a mixture of students located at the Schoolhouses, virtual campuses and other locations. The Schoolhouses will need to provide education and training materials, instruction and management for these students, and must prepare for these functions. Over time, the Schoolhouses can expect to teach fewer platform hours. However, these fewer platform hours do not translate to fewer staff or less presence and influence in the Objective Force Army. Indeed, the presence and influence of TRADOC is expected to expand and increase as the MOSQ and Lifelong Learning strategy is implemented.

The proponent TRADOC Schoolhouse continues to be responsible for preparing lifelong learning materials that enable the student to achieve competency for a complete set of critical tasks, as opposed to providing competency for a partial list of critical tasks. Where the student learns these tasks becomes increasingly irrelevant.

The MOSQ and Lifelong Learning strategy places the proponent Schoolhouses on a path that leads to being responsible for teaching skills that enable the student to access and use the appropriate information at the trainable moment. The Schoolhouses will continue to be responsible for developing and maintaining the common databases of instructional materials used by its student population. These materials should be developed in modules that allow reusing the instruction at the trainable moment as well as for any unfulfilled competency training.

The proponent Schoolhouse is also responsible for making these materials available for access by lifelong students located worldwide. This access to the same information should be common to virtual campuses, active and reserve components, and other individuals. Changing the focus of the Departments from platform instruction to supporting lifelong education and training that includes all of the proponent's constituencies can be expected to require some level of change in the focus and organizational structures of the Departments as well as the formulas used for funding their activities.

The proponent Schoolhouse continues to be responsible for designing and developing materials for the education and training of the student population worldwide. The materials should be developed using integrated technology based training system analysis methods, described later, that support learning by doing and meets training support development requirements. These materials should be:

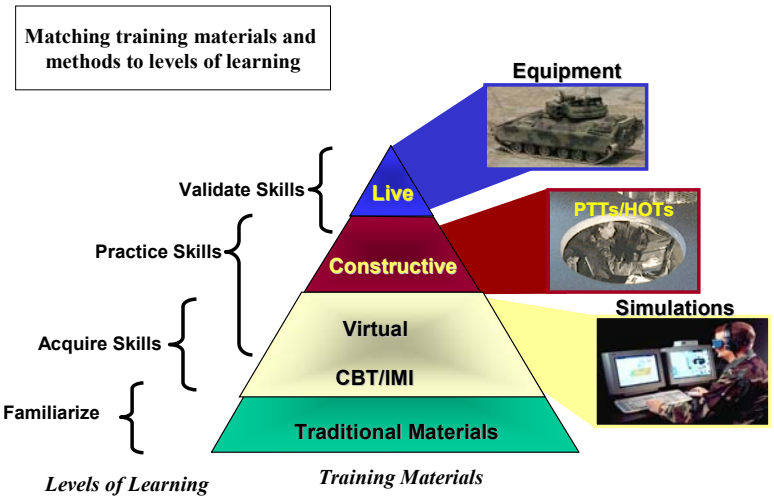
- Developed to standards that support users who do not have the benefit of instructors.
- Consistent with student expectations and needs.
- Usable with existing distribution capabilities, particularly the World Wide Web.
- Developed to established standards to support reuse and reconfiguration of materials to match the needs of the student.
- Scalable and flexible to support a range of education and training needs.

The education and training content/materials for MOSQ and lifelong learning leverage the full range, to include:

- Traditional materials; for example; video, VGTs, paper-based reading, blackboard, and so on.
- CBT/IMI.
- Simulations.
- Part Task Trainers.
- Hands on Trainers.
- Equipment.

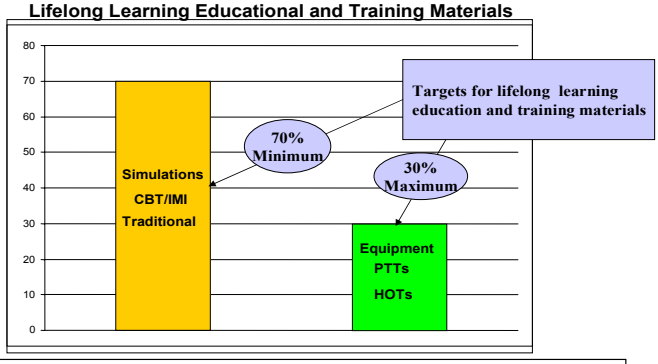
The strategy recognizes that each of these materials has advantages and disadvantages, and should be used as appropriate. As illustrated below, the strategy seeks to match the most appropriate training materials, methods, and environments to the levels of learning for optimal education and training. The strategy acknowledges the need for "hands-on" training to practicing motor skills and validating certain skills.

Lifelong Learning and Levels of Learning



The objective is to determine and use the most appropriate combination of lifelong learning education and training materials and delivery means. The strategy seeks to shift training requirements as much as possible from higher cost items such as hardware trainers and equipment that cannot be easily distributed to the lower cost items that also can be distributed via existing communication infrastructures and capabilities. The illustration below describes the strategy's goal of using a *maximum* of 30% hardware (equipment, Part Task Trainers, and Hands on Trainers and a *minimum* of 70% simulations, CBT/IMI and traditional materials for education and training of the lifelong student.

Lifelong Learning Educational and Training Materials



TRADOC lifelong learning strategy:

- **Leverage simulations, CBT/IMI, and existing traditional education and training materials:**
  - **Distribute learning materials to the locations of lifelong students**
- **Reduce training requirements for higher cost equipment, PTTs and HOTs in the schoolhouse and in units:**

As illustrated on the previous page, the strategy's target for simulation, IMI, and traditional materials is a minimum of 70%. Within this 70% minimum, the targets are:

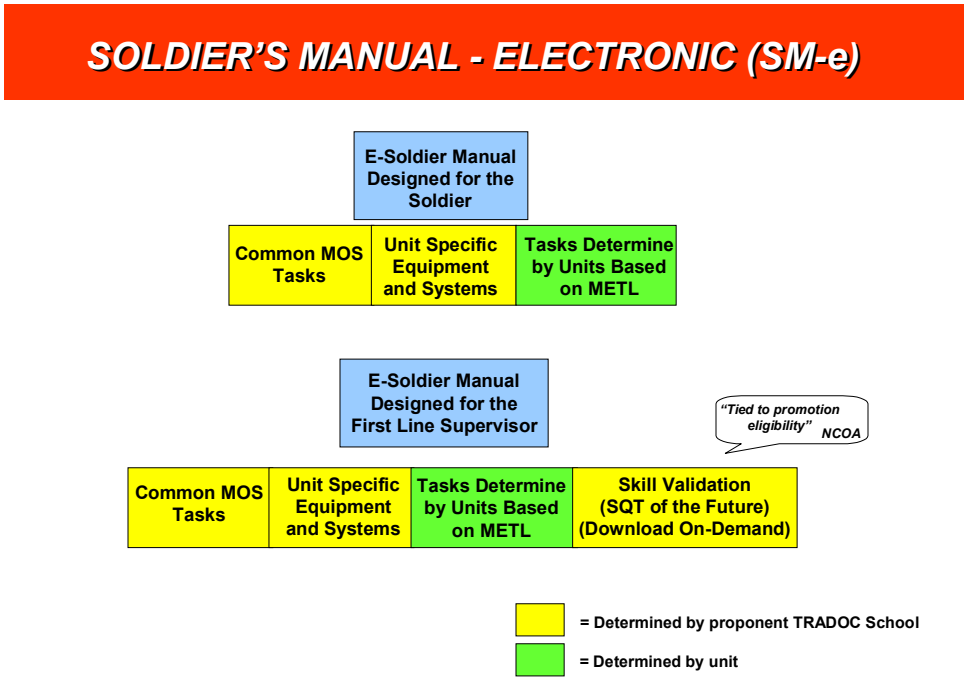
- 70% simulations.
- 20% CBT/IMI.
- 10% Traditional materials.

The strategy also recognizes that mentors, mentoring, and field experience are important elements of lifelong learning and are primary sources of education and training materials within the strategy.

The delivery means for lifelong learning include the:

- TRADOC Schoolhouses and virtual campuses.
- Total Army School Systems Battalions.
- Combined Training Centers.
- Infrastructure being put into place with the Total Army Distance Learning Program.
- Training being embedded in systems.
- First line supervisors and other leaders and mentors in the field.Industry and academia.

The Soldier's Manual will continue to be an important and relevant source of education and training materials. The MOSQ and Lifelong Learning strategy envisions the development of an electronic Soldier's Manual (Soldier Manual - electronic [SM-e]) that electronically integrates the functions of the current Soldier's Manual and the Skill Qualification Test (SQT). The following illustrates the SM-e concept.



The SM-e, which may be a Personal Digital Assistant (PDA), will be electronically connected to lifelong learning 24/7 servers (may include a PDA). It and the associated contents can be customized/tailored to the needs of the individual soldier tasks based on:

- Common MOS tasks
- Unit equipment packages
- Unit METL

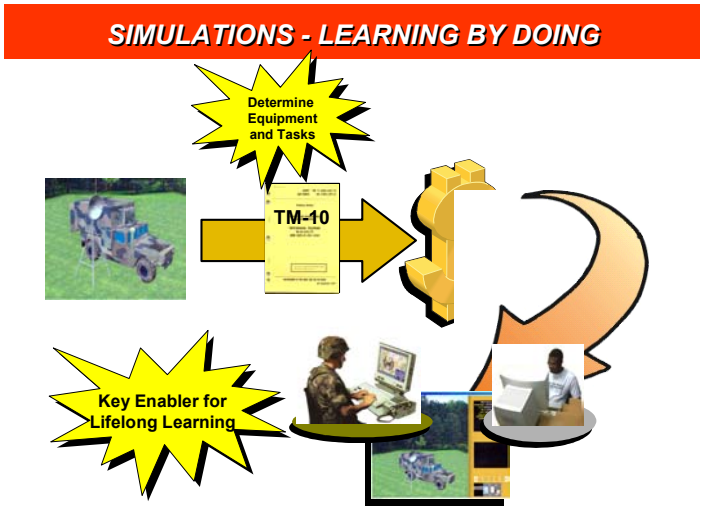
The first line supervisor can monitor and supervise soldier's training progress as well as download skill qualification packages to validate training. The training record can be "pushed or pulled" to the soldier and other appropriate leaders and organizations; for example, First Line Supervisor and Schoolhouse. The SM-e content, including SQT equivalent functions, remains a responsibility of the TRADOC Schoolhouse. The SM-e can leverage technologies for keeping current that include:

- Information technologies such as server based content, networks and World Wide Web.
- Student management for the:
  - First Line Supervisor to manage and direct ("force") the training
  - Schoolhouse to monitor the training and maintain the individual training record.
- Simulations to provide learning by doingOther forms of electronic education and training materials.

The SM-e is the Soldier's Manual of the future that integrates SQT functions to provide an assessment tool for the individual, unit, and Army and provides a forcing function for self-development. Lifelong learning technologies are leveraged to keep the SM-e current and the proponent Schoolhouse continues to be responsible for preparing the content.

3.8 Simulations

Simulation is a *training support enabler* of the MOSQ and Lifelong Learning strategy. The presence and availability of PC based simulations that support "learning by doing" is a baseline capability of successful MOSQ and lifelong learning for a full spectrum Army with soldiers and leaders who employ the latest technologies. These simulations provide the optimal education and training materials as well as reference materials for soldiers and leaders in the field, and for instruction in the Schoolhouse. They include technical simulations to teach the **science** of operating and maintaining systems, equipment, and networks. They also include tactical simulations for teaching the **art** of doctrine, tactics, techniques, and procedures. The key features of these simulations are illustrated below.



The major contribution of simulations to readiness is better-trained soldiers and leaders. Their specific contributions include:

- Ability to provide training for legacy, digital and COTS based systems during the transformation of the Army.
- Delivery of "learning by doing" on-demand at the location of the soldier and leader.
- 30 to 50% less training time required.
- Soldiers and leaders who are better trained on the equipment, systems and doctrine, tactics, techniques, and procedures.
- Better student motivation, engagement, and retention (30 to 50% increase in student performance).
- Focused training for follow-on assignments.
- Less equipment, both in the Schoolhouse and field units, and fewer facilities required for training (30 to 40% life cycle cost reduction).
- Ability to provide training for dangerous tasks or on equipment that is not available to the Schoolhouse. The ability to use simulations is an important strategy for the Schoolhouse where the timely obtaining of equipment for training historically has been a challenge.
- Improved ability to maintain configuration with changes in equipment.

The technology based tasks performed by Army soldiers and leaders during the early stages of their career are well suited for the use of simulators for training. Most of the tasks can best be acquired via "learning by doing." They generally are technical in nature and can be trained with PC based simulations. The art of tactics, techniques, and procedures at the junior leader level are relatively simple overall and do not require complex tactical simulations; however, they become increasingly complex as the leader progresses and require more complex simulations.

Both technical and tactical training can be implemented with simulations on personal computers. Indeed, there are a number of existing military databases and simulations as well as COTS based simulations that can support or can be adapted to meet many of the tactical training needs. The evolution of DIS and HLA protocols mean that Government tactical simulations (like JANUS or its successors OneSAF and WarSim) can be networked. The explosion of LANs, WANs, and Intra-net in industry means that a number of COTS network performance simulations are available and can be adapted by the Schoolhouse. The use of COTS tactical simulations can present integration issues unless networks of different functions as well as different players are possible. Experience at the Schoolhouse emphasizes that the educational mission of the course must drive the use of tactical simulators. This driver is particularly true for training combat service support functions, where the overhead of operating the simulation can overwhelm the educational benefits achieved by the simulation.

The MOSQ and Lifelong Learning strategy seeks to leverage the benefits of software based simulations to provide "learning by doing" and to reduce training requirements for higher cost equipment, Part Task Trainers (PTTs) and Hands On Trainers (HOTs) in the Schoolhouse and in units. These items also are often hard to obtain, costly to maintain, and become a choke point for student throughput. Simulations can be delivered by the Program Manager as part of an OEM support package and be available to the Schoolhouse for training when new equipment is being fielded.

The strategy group's simulations go into the general categories of technical and tactical. The technical simulators provide training on the operation and maintenance of systems and networks (***science***) and the tactical simulators provide training on the fighting of the systems and networks (***art***). Examples of technical and tactical trainers and simulations are provided below.

Examples of Lifelong Learning Simulations

Technical Trainers

- Maintenance
- System functionality and operations
- Integrated Digital System Trainer

Tactical Trainers

- Fundamentals & Principles Tactical Trainer
- Tactical Mission Trainer
- Tactical Leader's Trainer
- ABCS systems operations and networks
- Visual Terrain Environment Trainer
- Reconfigurable TOC Trainers

The following illustration provides an example of aircraft maintenance trainers and the associated suites of simulations that could be developed for lifelong learning supported by the TRADOC Schoolhouse. Like some of the other TRADOC Schoolhouses, the U.S. Army Aviation Logistics School (USAALS) has constructed its courses by tailoring the course of instruction along the lines of how aircraft systems work together. Each course of instruction has grouped major subsystems together to teach the systems in the most practical manner. The table also illustrates instruction that is re-usable by Trade MOSs. Each "X" indicates that one or more tasks occur within the simulation area of instruction.

Example of Aircraft Maintenance Trainers and Simulations

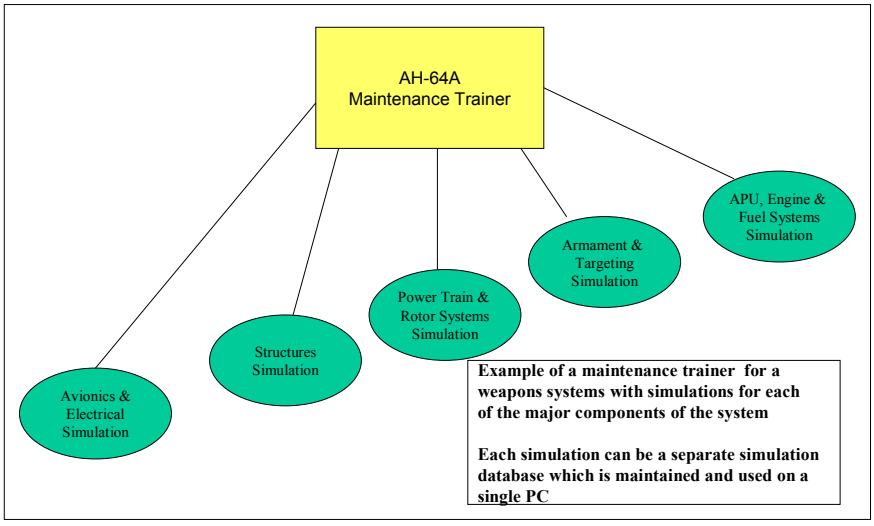
Example of Aircraft Maintenance Trainers and Simulations			
Aircraft Trainer	**Major Components/Simulations**	**Training Applications**	
		System	**Trade**
CH-47	Engine, APU	X	X
	Fuel System	X	X
	Transmission & Rotor Systems	X	X
	Flight Controls & Pneudraulics	X	X
	Airframe & Landing Gear	X	X
	Avionics & Electrical	X	X
	Utility	X	
	Support Equipment, Maint Manuals & Procedures	X	X
UH-60	Engine, APU	X	X
	Fuel Systems	X	X
	Transmission, Flight Controls & Rotor Systems	X	X
	Hydraulics	X	X
	Airframe & Landing Gear	X	X
	Avionics & Electrical	X	X
	Utility	X	
	Support Equipment, Maint Manuals & Procedures	X	X
OH-58D	Engine & Fuel Systems	X	X
	Flight Control, Rotor, Transmission & Pneudraulics	X	X
	Airframe & Landing Gear	X	X
	Avionics, Electrical, Armament & Utility	X	X
	Support Equipment, Maint Manuals & Procedures	X	X
AH-64A	Engine, APU & Fuel Systems	X	X
	Rotor System, Transmission & Flight controls	X	X
	Airframe & Landing Gear	X	X
	Armament, Avionics & Electrical	X	X
	Utility	X	X
	Pneudraulics	X	X
	Support Equipment, Maint Manuals & Procedures	X	X
AH-64D	Engine, APU & Fuel Systems	X	X
	Rotor System, Transmission & Flight controls	X	X
	Airframe & Landing Gear	X	X
	Armament, Avionics & Electrical	X	X
	Utility	X	X
	Pneudraulics	X	X
	Support Equipment, Maint Manuals & Procedures	X	X

TRADOC Schoolhouses often group systems such as those illustrated above by tailoring them to fit the course of instruction. System grouping also facilitates instruction by capitalizing on each system layout and functionality. Research completed at TRADOC Schoolhouses such as the USAALS, the USASC&FG, and the USAARMS has determined that training tools such as virtual reality based simulations, mock-ups, hands-on training systems and CAT B aircraft, are regularly being used by multiple MOSs to train different, but MOS specific skills. This re-utilization of training components is not frequently practiced for CBT/IMI supported instruction. Indeed, CBT/IMI supported courses generally are fairly "stove-piped" throughout the Schoolhouses.

The research also determined that a family of PC based technical trainers and simulations provide optimal lifelong learning materials for technical training such as that provided for the aviation maintenance and logistics as well as for the signal and information technology communities. These simulations can be used to support education and training for both system specific and common instruction across platforms and MOSs. Accordingly, the MOSQ and Lifelong Learning strategy supports organizing families of trainers and associated simulations for complex systems such as the aircraft systems illustrated in the table above (*U.S. Army Aviation Logistics School Technology Based Masterplan*) and included in the *USASC&FG Information Technology and Digital Training Masterplan*. This organizational structure can be adopted as a model for other TRADOC Schoolhouses for developing and using PC based simulations in support of the MOSQ and Lifelong Learning strategy.

The following illustration describes the hierarchy for a technical trainer (AH-64A maintenance trainers) with five supporting simulations. The trainer and supporting simulations can be maintained in a single database with ICONS that enable the student to select and load the simulation software for any of the simulations. The configuration of the software by components supports more manageable sized files, using smaller computers for rendering the software, and distributing it to other locations.

Aircraft System
Technical (Maintenance) Trainer



There is a tendency to think of combat operations as the exclusive domain of trainers for leaders. While leader trainers are an important part of training tactical combat leaders, the MOSQ and Lifelong Learning strategy acknowledges the importance of leader training for technical personnel, such as maintenance and signal leaders. The following is an example of trainers for maintenance leaders. Simulations can support the presentation for a range of scenarios that require leaders to work through situations and, in the process, acquire the skills required for job performance. A similar set of trainers has been identified for signal and information leaders and is included in the USASC&FG *Information Technology and Digital Training Masterplan*.

Examples of trainers for aviation maintenance leaders

Aviation Maintenance Leader Trainers	
Trainer	**Purpose**
Fundamentals & Principles of Aviation Maintenance	Train leaders in the fundamentals and principles of aviation maintenance
Aviation Maintenance Tactical Employment	Train leaders in the tactical employment of aviation maintenance assets and capabilities in support of tactical operations
Aviation Maintenance Leader	Train adaptive leaders to plan and perform aviation maintenance operations in a range of tactical scenarios – a computer generated reaction course
Battle Damage Assessment and Repair	Train aviation maintenance leaders to perform battle damage assessment and repair for a range of scenarios
Aviation Maintenance Leader Inspector and Aviation Safety	Train aviation maintenance leaders to perform inspections and ensure aviation safety

Again, using the USAALS as an example, the single largest area of skill training is maintenance manuals, processes, and procedures. Some of these decision-making skills are required in most of the courses taught. In entry-level courses (10 level), there are fewer decision-making skills required. However, there is heavy emphasis on decision-making skills for senior level (30, 40, and Warrant) courses. In many cases, decision-making skills constitute over half the skills taught for NCO courses. Often there is more than one right way to safely do the task.

The training tools for leadership training of technical MOSs such as maintenance and signal may move directly from the classroom to applications on training devices. Since USAALS concentrates heavily on producing aircraft mechanics with excellent technical skills, senior NCOs often are mixing technical and leader skills in the classroom and during hands-on instruction. These types of tasks require primarily cognitive and motor skill training. Decision-making skills are not easily taught or validated using technical tools designed primarily to teach the science of cognitive and motor skills. Better leadership training tools are needed to teach good decision-making skills to plan, organize and manage technical tasks such as maintenance, vehicle recovery, mobilization scenarios and battle damage and repair.

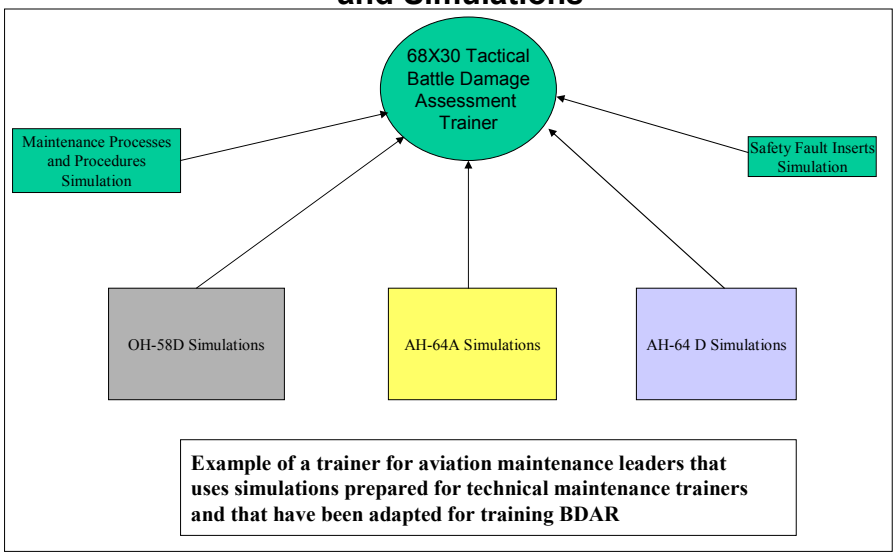
There are a number of task applications that can be taught through a series of "tactical leader simulations." The effectiveness of these tools has been demonstrated. Some technical schools have found tactical simulations provide instructors a controlled environment where problems can be presented to both teams and individuals. Tactical simulations at Senior Service Colleges reduce costs, provide more effective training and support training for a broader range of scenarios.

TRADOC Schoolhouses can benefit by incorporating PC based tactical simulations to teach, practice and validate decision-making skills. Although many of the tasks that might be learned and validated in a tactical simulation would require a technical background and experience, the thought processes change once a senior NCO assumes leadership, management and supervisory responsibilities. Examples of maintenance tasks that are considered candidates for "tactical simulations" include:

- Supervise maintenance of work area/equipment/tools.
- Monitor prescribed load list and combat prescribed load list.
- Enforce safety program.
- Supervise system inspection.
- Ensure compliance with oil analysis program.
- Ensure proper use of non-destructive inspection methods.
- Assess battle damage and repair.
- Maintain shop property accountability.
- Use standard Army maintenance information system.
- Manage component systems.
- Plan and conduct vehicle recovery.
- Manage repair operations.
- Manage production control.
- Prepare and conduct movement.
- Plan and supervise preparation air transport.

An illustration of a leader's tactical trainer is provided below where the task is to inspect and assess battle damage on various types of helicopters. The Tactical Battle Damage Assessment Trainer is an example of using integrating software from different systems into a trainer and an associated suite of simulations. This example can be adopted as a methodology in many of the TRADOC Schoolhouses.

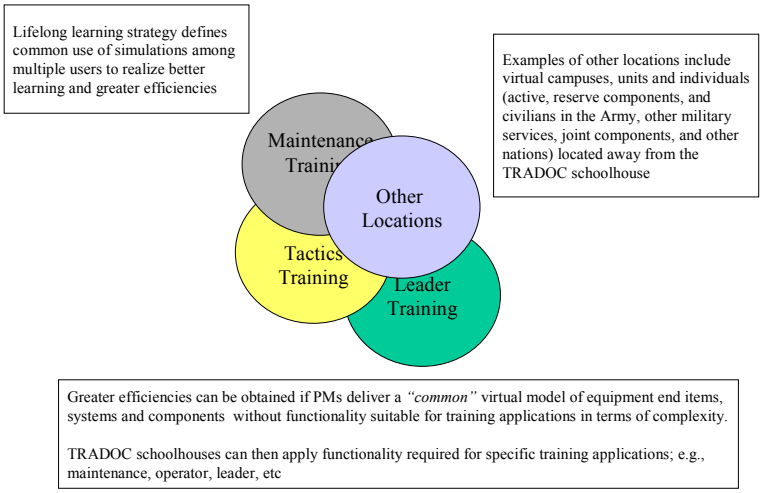
Aviation Maintenance Leader Trainers and Simulations



Simulation training systems can offer a wider range of battle damage experience than hands-on trainers. In the example above, battle damage inspections can be drawn from simulations that are used to acquire and practice skills at the 68G10 level and other levels that require technical familiarity of the systems being taught.

The MOSQ and Lifelong Learning strategy acknowledges the potential for common uses of simulations among different student populations, as illustrated below.

Common Use of Simulations

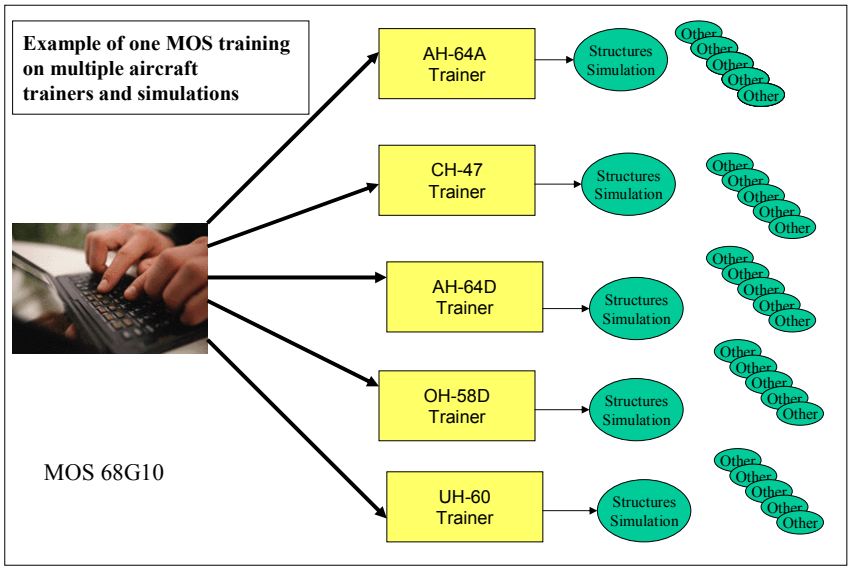


The other locations include virtual campuses, units and individuals as well as other military services and nations expected to use these simulations.

The common use of simulations supports their design and development for multiple users and is a significant advantage in terms of cost. It allows the training base to accomplish its mission with fewer, more precisely defined simulations that can be used by the population it serves. Indeed, even greater efficiencies would be possible if procurement Program Managers deliver a "common" virtual model of equipment end items, systems, and components suitable for training in terms of complexity. These virtual models can be delivered without functionality that can be

developed and integrated by the Schoolhouse for specific training applications; for example, maintenance, operator, leader, and so forth. The following illustrates an example of common use for training the MOS 68G10 to perform maintenance on multiple aircraft.

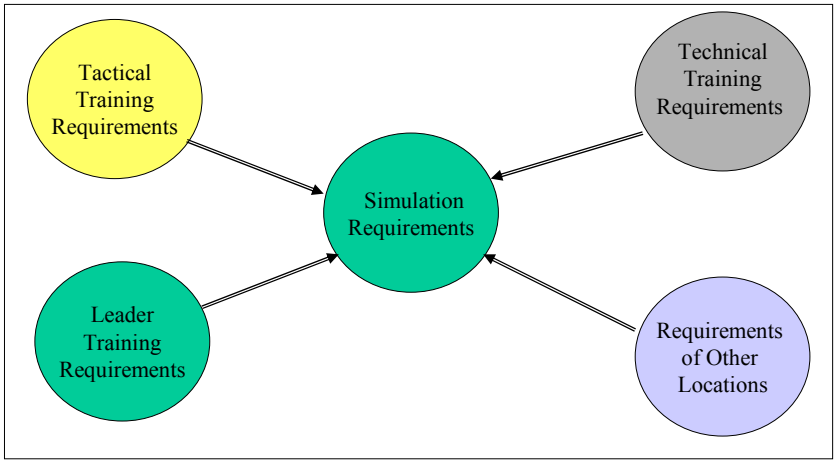
Aviation Trade Technical Trainer & Simulations



The instruction provided at the USAALS is an example of the need for integrating training across different platforms. Nearly half of the courses taught at USAALS (46%) are for "Trade" MOSs. Instruction for these types of skills tends to dwell on a particular area of specialty across several different aircraft types. As an example, a structural mechanic (MOS 68G10) must learn and validate skills that maintain and repair structural systems of CH-47, UH-60, AH-64D, AH-64A and OH-58D aircraft. They must be able to practice maintenance and repair skills that deal with metal as well as composite structures. As a result, their course of instruction draws from course material across all aircraft types that may have already been developed or at least partially developed for aircraft specific MOSs. The illustration above illustrates how that instruction works.

The MOSQ and Lifelong Learning strategy includes identifying the full range of users and integrating the requirements for different users into simulations, as illustrated below.

Establishing Requirements for Simulations
(Continued)



It is critical that a set of guidelines be established and used for establishing simulation requirements to establish parameters for the process. Examples of these guidelines include:

- Focus on what is required/needed; not what is possible:
- Understand/accept it is not possible to train for everything.
- Expect/accept need for priorities and trade-offs.
- Avoid proprietary software; specify COTS.
- Design the simulation to support:
  - TM standards.
  - Student use of the TMs as the basis for training.
  - Training for individual and units in the field and other locations that also can be used in the Schoolhouse.
  - Different MOSs (for example, officer advanced, warrant officer, ANCOC, -10).
  - Growth as additional funding becomes available and/or new applications are identified.
- Target PC-based platform(s) available at other locations and the Schoolhouse.
  - Multiple applications on same platforms.
  - Make trade-offs when necessary to keep applications on lower cost platforms that are more widely available.
- Establish and reuse a common architecture across the trainers and the associated families of simulations. For example:
  - Instructor Operating Station.
  - Fault insertion.
  - Student tracking and record/AAR.
  - Screen menu.
  - Man-machine interface.

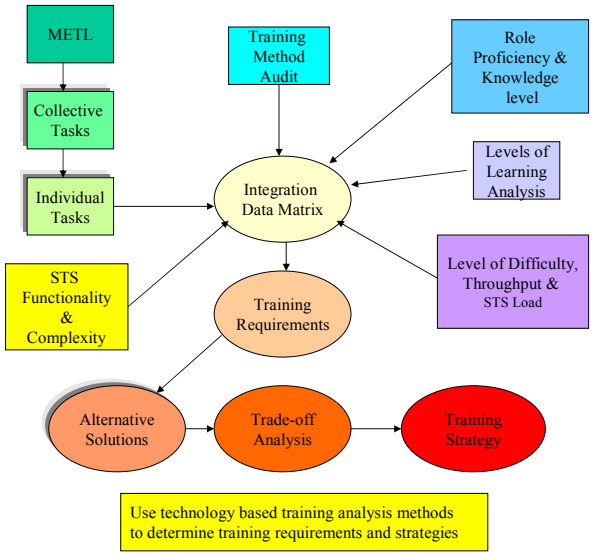
- Establish and enforce quantifiable requirements that can be used as "exit criteria" for simulation development to avoid requirement "creep." Examples of these criteria include:
  - Supports training for multiple MOSs
  - Can be supported on PC platforms
  - Is COTS based
  - Supports growth
  - Can be used at other locations
  - Is consistent with a common architecture
  - Complements other training materials (CBT/IMI, PTTs, HOTs, actual equipment)
  - Development, article, and life cycle costs
  - Cost for maintaining currency

The MOSQ and Lifelong Learning strategy gives priority to designing materials for use in the field environment and then using these same materials for instruction in the Schoolhouse. The strategy recognizes that it may be necessary to perform some modification on materials designed for use in the field to use these materials in the Schoolhouse. These modifications can be manageable if the technical manual (TM) is used as the reference document for developing the materials and is used in the Schoolhouse as the base course document for students. This approach has the added benefit of the student using the same document (TM) in the Schoolhouse that he or she will be using in the field. It supports the strategy's objective of immersing the student, to the extent possible, in the environmental conditions at the Schoolhouse that will be experienced in the field; in the process, the Schoolhouse will be preparing the student for lifelong learning.

3.9 Training System Analysis

The Schoolhouses should also apply a technology based integrated training system analysis, such as that illustrated below, to develop tasks being trained into a coherent lifelong learning strategy.

Integrated Training System Model



The Integrated Training System Model illustrated above can be used for developing training strategies to provide a scientific based examination of the current system and provide a disciplined approach to a technology based training program. The model grounds its analyses in the Mission Essential Task List as the basis for collective and individual tasks being trained. The methodology includes a number of steps and resulting scientific analysis that support training requirements through the POM process while enhancing training quality at lower life cycle costs. Highlights of the model's outputs include:

- Conducting a Level 1 audit of available education and training materials currently being used.
- Integrating task performance roles, performance levels, and knowledge levels.
- Integrating the number of students per year (throughput) from Government Furnished Information (GFI).
- Estimating an annual Student Training Station (STS) load based on the number of students per year and the level of difficulty for each task.
- Determining the level of complexity for the different means considered for training the task.
- Compiling the data in a data integration matrix.
- Constructing a description of each individual or collective task.
- Collecting Subject Matter Expert (SME) analyses of individual roles for each task.
- Integrating SME analyses of individual proficiency required for performing the tasks.
- Collecting SME analyses of individual knowledge levels required for each task.
- Identifying required training methods for each task.
- Establishing Subject Matter Expert analyses of levels of learning needed to acquire each skill.
- Aggregating Subject Matter Expert analyses of task learning levels of difficulty.
- Assessing student load for each STS.
- Collecting Subject Matter Expert estimates of STS complexity required for training each task.
- Compiling study conclusions for each task.
- Collating study recommendations for each task.

The MOSQ and Lifelong Learning strategy includes performance-based testing for validating the training delivered.

3.10 Summary

This Section provides the execution concept for adopting and supporting MOSQ and Lifelong Learning across TRADOC and the proponent communities that we serve. The training support enablers of this concept, in priority order, includes:

- *Assignment-Oriented Training* to get better trained more focused soldiers and leaders to the field faster with follow-on training for their subsequent assignments.
- *Simulations* to support “learning by doing” at the Schoolhouse, at virtual campuses, and at the location of the soldier in the field.
- *Virtual Campuses* to provide TRADOC proponent Schoolhouse sponsored education and training to field locations.
- *Resource Centers* that support instructors to provide 24/7 reach back and access to proponent education and training materials and SMEs.

The proponent Schoolhouses should use the information and guidelines provided to develop tailored masterplans for the communities they serve. The realization of the MOSQ and Lifelong Learning strategy transforms TRADOC education and training from the traditional Schoolhouse approach to lifelong learning that can be provided to the student anywhere, anytime.

4.0 Service Support (Resource Center)

4.1 Requirement

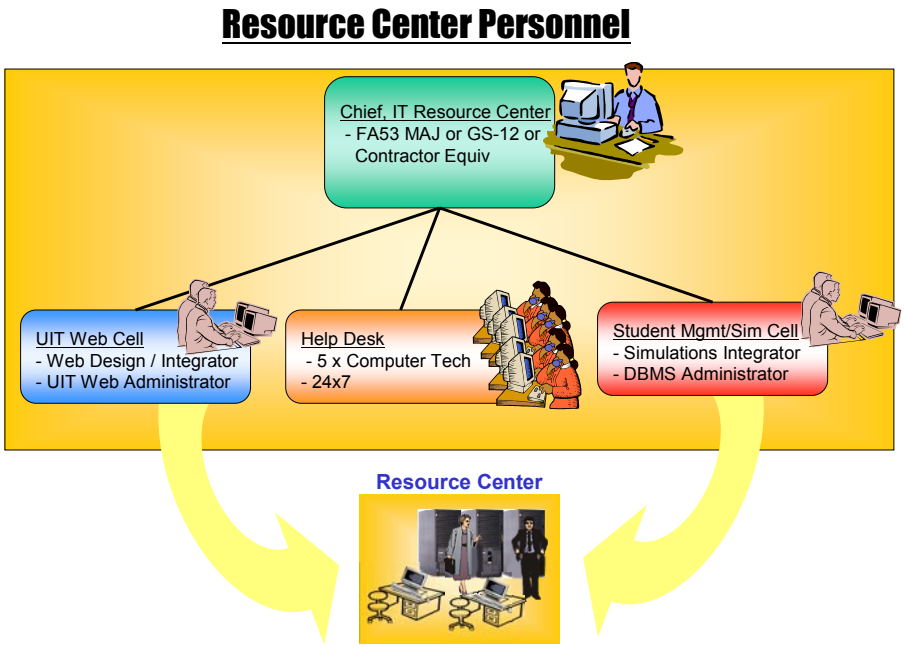
The transition to technology based lifelong learning significantly increases the number of students interacting with the Schoolhouse and the requirements for managing these larger numbers of students, worldwide. The levels of software will also significantly increase as the simulations are developed and become widely used as the standard for education and training materials. The end result will be even more significant service support requirements for establishing, maintaining, and managing student and software databases at proponent Schoolhouses that are, in essence, the electronic and digital hub of the MOSQ and Lifelong Learning strategy. This central location at the Schoolhouse also would be responsible for configuration management, updating software, and distributing the software to standard PCs being used for education and training. The proponent Schoolhouse Resource Center complements the Digital Training Facilities being established in the Total Army Distance Learning Plan and similar capabilities being established by Army Reserve Components.

This Section describes the Resource Center that is recommended as the electronic and digital hub for MOSQ and lifelong learning.

The Resource Center enables the proponent Schoolhouse to provide valued added services for the community it serves and is a baseline capability for sustaining MOSQ after IET.

4.2 Organization

An example of an organization for the Resource Center is illustrated below. This organization is based on experience at the University of Mounted Warfare at the USAARMS, Fort Knox, Kentucky and the University of Information Technology at the USASC&FG, Fort Gordon, Georgia. It is provided as an example only with the understanding that each proponent Schoolhouse will need to design, put into place, and operate the Resource Center to meet its specific requirements.



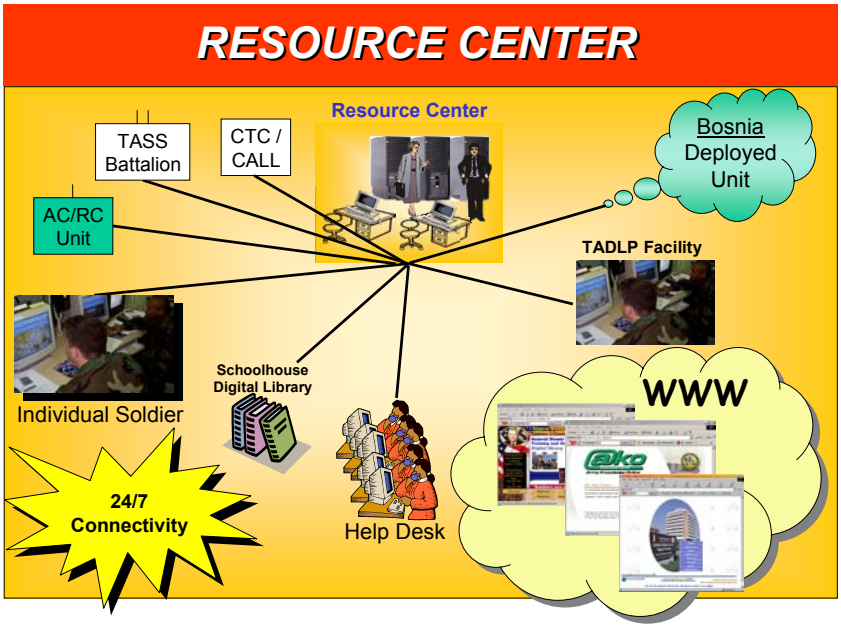
This Resource Center supports MOSQ and lifelong learning requirements for:

- Managing and operating databases and servers to store, configure, update, and distribute simulation software as well as software for other education and training applications.
- Operating a web site as the portal for accessing and distributing proponent education and training materials as well as for managing students located at other locations.
- Providing management for students located at the Schoolhouse as well as other locations.
- Operating a 24/7 Help Desk that enables students and others to obtain technical support from the Schoolhouse.
- Developing relationships for providing proponent sponsored education and training at a network of other locations that can include virtual campuses.

The Resource Center is the electronic and digital hub that enables the proponent Schoolhouse to establish and maintain links between the institution, unit, and soldier to ensure there is a continuous educational capability to sustain soldier skill proficiency and self-development regardless of location or mission.

4.3 Functional Activities

The functional activities of the Resource Center are illustrated below:



The reliable access and distribution of education and training materials and management records are critical for a successful MOSQ-Lifelong Learning strategy and is a primary function of the Resource Center. This facility provides a portal between the lifelong student and the Schoolhouse for this access and distribution with a:

- *Digital Library* to support storage of the simulation and web-based training software and databases as well as providing a comprehensive search capability. The digital library performs the functions of configuration management, database software storage, as well as access to and distribution of the software. It also supports the simulation, stimulation, and scenario databases required for training. The library will also provide links about new information and communication technologies as well as data for lessons.

- *24/7 Help Desk* to help individuals at other locations to access information and to obtain support of the Schoolhouse. This service includes directing calls to experts who can assist users with technical problems and provide other information as needed. This support could include assistance for configuring simulations and scenarios to meet training needs.

A primary function of the 24/7 Help Desk is to provide access and to maintain soldier link with the proponent Schoolhouse.

- *Learning and Student Management System* (LMS) to monitor and manage each student's lifelong learning training needs. The LMS is essential for the ability of first line supervisors being able to download tasks to develop "tailored" Soldier's Manuals (the Soldier's Manual-electronic) and being able to verify performance measures of task performance.
- *DTAC Interface* for distributing education and training materials across the Internet. DTAC Interface provides a mechanism for distributing training content across the Internet. It also ensures training materials are maintained in a manner consistent with TRADOC policy and are coordinated with the Reimer Digital Library.
- *Configuration Management* of software.
- *MOSQ and Lifelong Learning Web Site* to:
  - Coordinate with proponent Schoolhouse web authors to move content to the DOIM server farm (DMZ).
  - Assist web authors to integrate SharePoint features into their sites (Discussion Groups, Document routing, Team Services/Org web sites and Document libraries).
  - Work with Installation web master to ensure their site complies with applicable DOD and Army policy.
  - Work with the Simulation Cell and Schoolhouse to incorporate Blackboard web-based classes as the standard media.
- *Distribution* methods used by the Resource Center include Internet, CD-ROM, network distribution, and partnerships for using existing networks

4.4 Resource Center Services

The Resource Center performs a range of services that include:

- Providing technicians for responding to trouble calls, evaluating and analyzing compatibility with supported computer configurations and providing and implementing solutions to reported and discerned problems.
- Performing component administration responsibilities to include simulation software distribution, configuration, and operation, and managing computer memory/disk storage to include maintenance of hard disk space allocation.
- Providing and implementing recommendation(s) on system changes and operational procedures needed to increase efficiency, and to maintain record copies of system/component software disks and documentation and performing all duties in accordance with DOIM guidelines and regulations.
- Managing lifelong student networks servers for centrally administered courses.Managing lifelong learning student and instructor accounts.
- Ensuring servers are operational. These services include performing backups on servers, working with DPW and DOIM to ensure the server-operating environment are within limits required by server maintenance agreements, performing preventive maintenance on the servers, upgrading the server configurations as authorized, and issuing logins and passwords.
- Providing backup for student simulation software and training scenario data.
- Managing and maintaining software licenses.

- Managing maintenance agreements; for example, hardware and software.
- Installing software upgrades.Maintaining a Government-provided documentation/reference library for lifelong learning content, to include trainers and simulations.
- Maintaining network versions of application software to include loading and configuration management as well as a record of software disks and documentation.
- Maintaining continuity of operations (Disaster Recovery) capabilities to include file server back up and restoring damaged/lost files/data as well as a training system for troubleshooting that includes:
  - Compliance with designation of problem resolution priorities
  - Based on resolution forecast (time/resources), advising and implementing problem resolution resource assignment (initial and buildup)
  - Problem diagnosis
  - Developing and implementing a repair strategy
  - PC/workstation/peripherals that include component/operating system/network
  - Software installation and configuration
- Operating the Lifelong Learning Help Desk providing 24/7/365 call back services support that includes:
  - Responding to trouble calls, evaluating and analyzing compatibility with supported computer configurations, and providing solutions to reported and discerned problems.
  - Referring technical questions to appropriate Resource Center technicians and educational questions about courses to appropriate Army Communications and Information Systems subject matter experts and staff and faculty members.
  - Providing monthly Metrics reports on numbers and types of trouble calls logged, on-hold, and resolved.
  - Maintaining a daily work-order log, recording all trouble calls/work orders. The log should include verbal requests for assistance that are received from individuals encountered to/from service(s) calls being accomplished as a direct result of tasking by work order.
  - Developing and maintaining a database of all trouble calls.
    - → Provide for fields in the database to track users, dates, questions, actions, solutions provided, technicians/SMEs, and remarks.
    - → Provide a query capability to find similar instances/trouble calls.
    - → Provide Metrics reports for staff and faculty.

The Resource Center should maintain a Government-provided documentation/reference library for proponent trainers and simulations. It should maintain network versions of application software to include loading and configuration management as well as a record of all copies of software disks and documentation.

The Resource Center should maintain a daily work-order log and record all work orders in it. It is recommended this log include verbal requests for assistance.

4.5 Web Cell

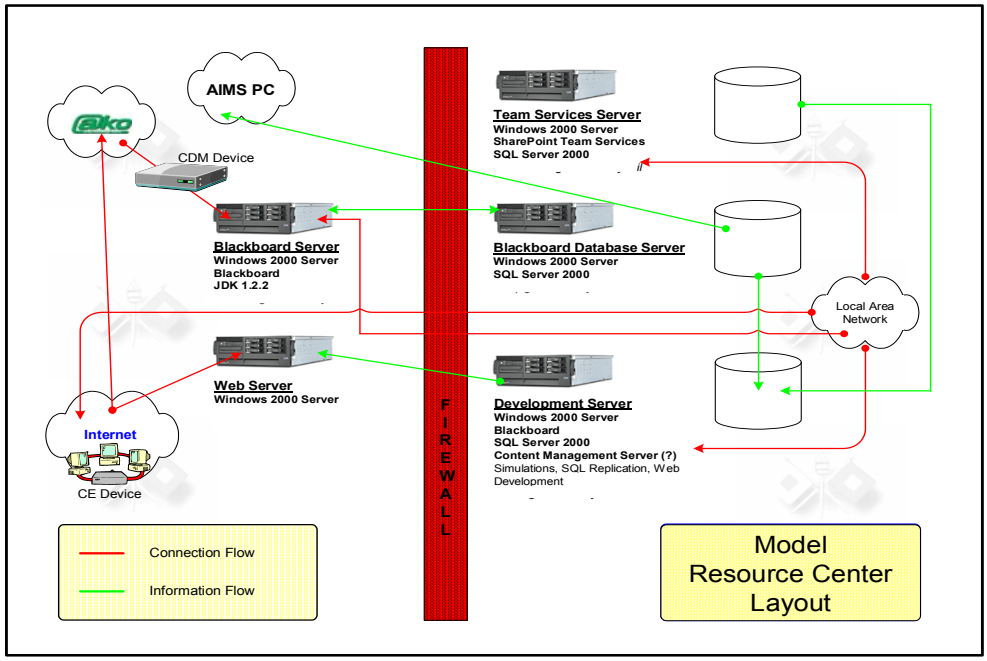
- Work with Installation web master to ensure our site complies with applicable DOD and Army policy.
- Install and maintain a public and development server for all web content for the proponent/installation Schoolhouses.
- Posts and maintains all proponent/Schoolhouse web content and maintaining current hyperlinks to subordinate and adjacent sites.
- Works with Installation web master to ensure the site complies with applicable DOD and Army policy.

4.6 Student Management and Simulations Cell

- Stores, manages, provides access, and distributes simulation and other software.
- Assists Schoolhouse instructors/facilitators to integrate simulations into their classes.
- Works with web cell to ensure simulations are cataloged into the digital library for access through the proponent Lifelong Learning web site.
- Works with the web cell and Schoolhouse to incorporate simulations hyperlinks web-based classes (Aspen and/or other LMS software).
- Works with the web cell to develop a seamless testing and grading system that interfaces with TRADOC training systems. For example; AIMS PC, ATTARS.

4.7 Resource Center Layout and Equipment

The following illustration provides an example of how a proponent Schoolhouse can organize its Resource Center to support the MOSQ and Lifelong Learning strategy. Each Schoolhouse will need to organize the Resource Center to meet its specific requirements.



The equipment items include Blackboard or other LMS Servers with software. The server includes:

- Database storage (inside installation firewall).
- SQL database (student management database).
- Developing, publishing, and exporting LMS and software-based lifelong learning content to the Blackboard/LMS server in the DMZ.
- Blackboard or other LMS server (in the installation DMZ).

The equipment also includes Web Servers with software. These Web Servers include:

- One Development Server (inside installation firewall).
- One SharePoint Team Services Server (provides organizations with discussion group collaboration, document routing, and document library capability).
- One Web Server (in the installation DMZ).

The Minimum Server configuration includes:

- Multi-processor Servers (2 GB RAM) with Hardware RAID/Windows 2000 Server Operating System
- Two SCSI Hard Drives for the OS (RAID 1 - Mirrored)
- Four large SCSI Hard Drives for Storage (RAID 5 - Hot Swap Capable)

The office equipment for the staff in this baseline Resource Center includes high-end PCs for web, LMS, and IMI development.

4.8 Summary

The Resource Center is the electronic, digital, and 24/7 Reach Back hub that makes lifelong learning user friendly. Its capabilities are essential for:

- Achieving the efficiencies associated with common architectures and reuse.
- Leveraging the communication infrastructures and the computer hardware, software, and peripherals to accomplish lifelong learning.
- Providing access to and distribution of configured, managed lifelong learning materials by soldiers and leaders worldwide, and the management required for successful lifelong learning.
- Portal through which:
  - First Line Leaders download tasks to develop “tailored” Soldier Manuals and verification of performance.
  - Soldiers and leaders develop and maintain a relationship with the Schoolhouse as their “professional home.”

The absence of the capabilities included in the Resource Center adversely impacts the ability of TRADOC Schoolhouses to leverage the potential of user-friendly lifelong learning. The access, configuration and maintenance of lifelong learning materials and the ability to manage the large numbers of students worldwide will be significantly reduced without the capabilities of the Resource Center. The overall impact will be greatly reduced effectiveness of the MOSQ and Lifelong Learning strategy reduced.

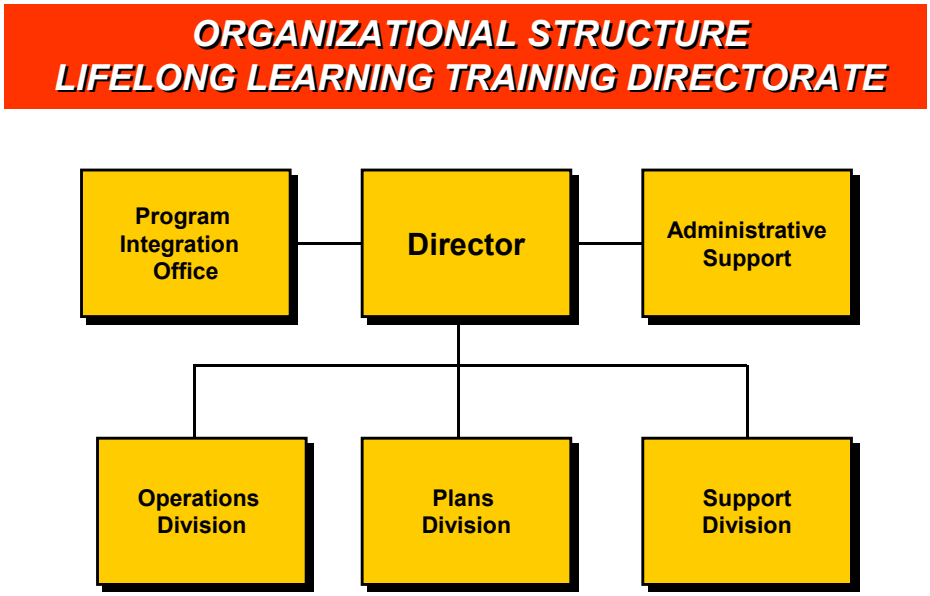
5.0 Command and Signal

The TRADOC MOSQ and lifelong learning strategy is not business as usual. It is a major change in focus for the Schoolhouse, staff and faculty, and the soldiers and leaders who are our lifelong students. The current organization and staff and faculty of the proponent TRADOC Schoolhouse is focused on resident training/education. To effectively implement the lifelong learning process, the proponent Schoolhouse and its staff and faculty will have to account for a mixture of traditional resident instruction as well as instruction presented in other locations using the most effective mix of locations, materials and methods. The organization will be structured to leverage new education and training methods and deliver lifelong learning to our soldiers, leaders, and units. The organizational structure is more than brick and mortar. It is a combination of hardware, software, facilities, connectivity, and people, providing the lifelong learning material, information, and support to resident students and active/reserve soldiers and units at other locations. Primary tenets of the organization include:

- Managing the Assignment-Oriented Training program.
- Developing and providing exportable courseware (for example, simulations).
- Resource center to serve as the portal to the lifelong learner.
- Virtual campus extensions to provide proponent school content.
- Staff and faculty.

5.1 Baseline Organization

Below is a functional organization that can be used as a starting point for organizing to support MOSQ and lifelong learning. Each participating organization and agency will have to develop its own organization for supporting the MOSQ and lifelong learning strategy.

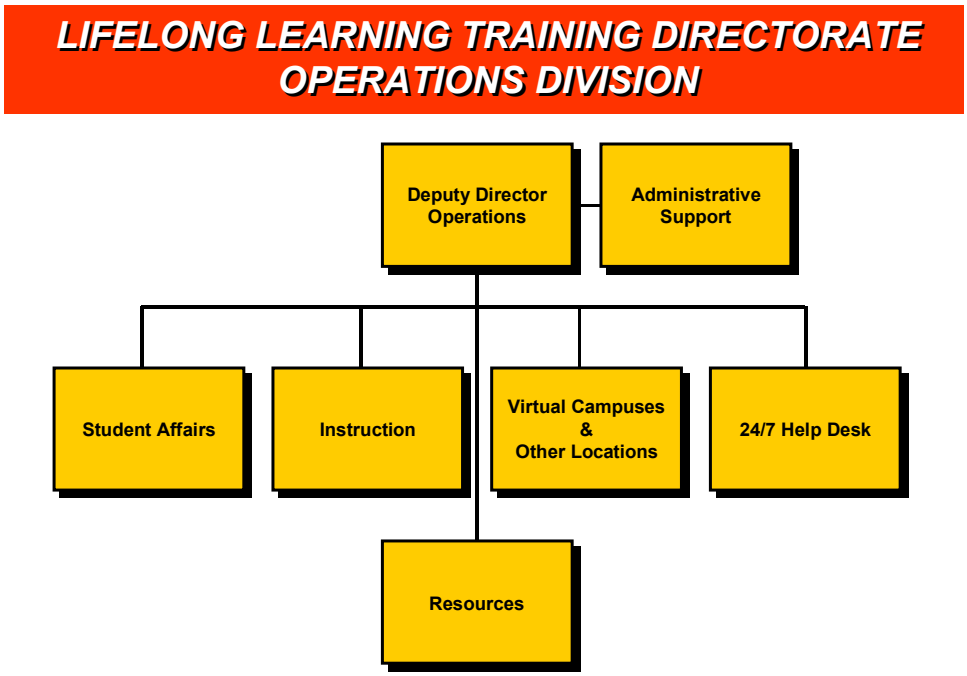


The baseline organization consists of an *Lifelong Learning Training Directorate*. This Directorate has staff responsibility for MOSQ and lifelong learning for Army soldiers and leaders, to include the content and materials to support the strategy. The *Operations Division* would be responsible for near-term (the close battle) education and training operations. The *Plans Division* would be responsible for developing and gaining approval of requirements and plans to support lifelong

learning (planning the next battle). The *Support Division* would be responsible for providing support for the Lifelong Learning Training Directorate. The *Administrative Support Section* provides administrative support to the Director.

5.1.1 Operations Division

The Operations Division, illustrated below, is responsible for conducting near-term MOSQ and lifelong learning operations.



The Operations Division includes a:

- *Student Affairs Branch* to manage student academic affairs, e.g., tracking, records, initial and follow-on assignments.
- *Instruction Branch* to prepare and deliver instruction, to include that presented at virtual campuses and other locations.
- *Virtual Campuses Branch* to manage education and training operations at virtual campuses and other locations.
- *24/7 Help Desk Branch* to operate the MOSQ and lifelong learning 24/7 Help Desk.
- *Administrative Support Section* to provide administrative support to the Deputy Director.

5.1.2 Plans Division

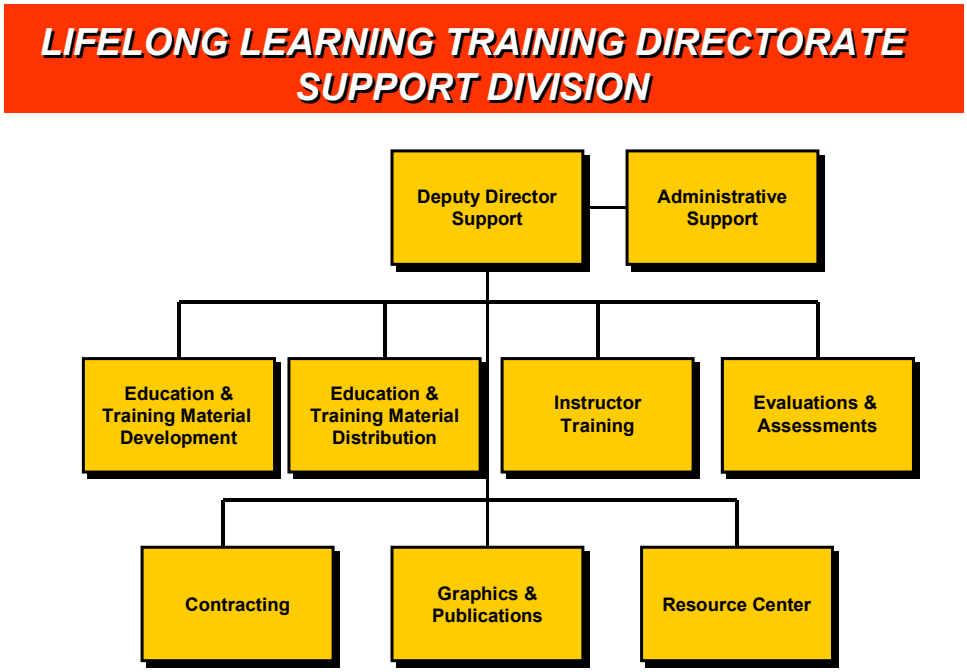
The Plans Division, illustrated below, is responsible for developing and gaining approval of requirements and plans to support the MOSQ and lifelong learning strategy.

This Division includes:

- *Personnel Branch* to plan personnel requirements and plans to support MOSQ and lifelong learning operations.
- *Facilities and Infrastructure Branch* to prepare plans for facilities and infrastructure requirements and plans to support operations; including virtual campuses and other locations.
- *Funding Branch* to determine funding requirements and plans to support operations; for example, budget and POM submission.
- *Policies and Procedures Branch* to plan and establish policies and procedures to support operations.
- *Technology Assessment and Insertion Branch* to conduct technology assessments and develop insertions requirements and plans to support operations; for example, education and training materials, distribution, evaluation and assessment, student management, and a Technology Assessment Board.
- *Education and Training Materials Branch* to determine education and training requirements and plans to support MOSQ and lifelong learning operations.
- *Administrative Support Section* to provide administrative support to the Deputy Director.

5.1.3 Support Division

The Support Division, illustrated below, is responsible for providing support to the Directorate of Operations, Plans, and Support.



This Division includes:

- *Education and Training Material Development Branch* to oversee development of MOSQ and lifelong learning education and training materials based on the requirements developed in the Plans Division.
- *Education and Training Material Distribution Branch* to oversee the distribution of education and training materials wherever these materials are used.
- *Instructor Training Branch* to provide training to prepare individuals to perform as instructors/facilitators, responsibility includes virtual campuses and other locations.
- *Evaluations and Assessments Branch* to provide evaluations and assessments to ensure quality control for education and training.
- *Contracting Branch* to provide contracting support necessary to support MOSQ and lifelong learning education and training operations.
- *Graphics and Publications* to provide graphic and publication support for the Directorate of Operations, Plans, and Support. For example, briefings, POM submission, and preparation of baseline CD-ROMs for distribution.
- *Resource Center* to provide technology infrastructure to support MOSQ and lifelong learning operations. For example, student management; 24/7 Help Desk; databases for storing, managing and distributing simulation software; and Schoolhouse web site.
- *Administrative Support Section* to provide administrative support to the Deputy Director.

5.2 Summary

The TRADOC Schoolhouse is the bedrock of successful MOSQ and lifelong learning that aligns the education and training base with the Objective Force. The organizing and the transitioning of staff and faculty of proponent Schoolhouses to deliver lifelong learning provides the foundation for increasing Army readiness where:

- Assignment-Oriented Training will put a more skill-focused soldier in the field faster.
- Use of simulations and other technology-assisted courseware will provide standardized training to active/reserve soldiers and reduce the reliance on expensive equipment for training.
- Delivering lifelong learning products to soldiers regardless of location will decrease the amount of time soldiers are away from units for training.
- Students receive the education and training they need when they need it and where they need it, to include being supported by qualified faculty located at the Schoolhouse and other locations, as appropriate.

While there are concerns that any new initiatives may include growth in staffing, it must be acknowledged that good ideas are not free and that it may be necessary to pay a personnel price to implement MOSQ and lifelong learning. The failure to organize the Schoolhouse for successful MOSQ and lifelong learning will result in a mismatch of an outdated education and training base trying to support the forward looking Objective Force.

The organization being described is not intended to be directive in nature. It is provided as a starting point for each participating organization and agency to use for developing its own requirements and organization to perform its requirements for successful MOSQ and lifelong learning.

6.0 MOSQ and Lifelong Learning Funding Strategy

This section provides guidance for developing POM submissions at the proponent Schoolhouse for executing the MOSQ and Lifelong Learning Implementation Plan.

6.1 Assessment Method

Review and integration of materials, comments, and recommendations from a range of sources that include Army Learning & Training Effectiveness Symposium Report; University of Mounted Warfare, Phase I Design Report; TRADOC Total Army Distance Learning Program; Information Technology and Digital Training Masterplan; Initial Entry Training Strategy Review Task Force Products; and recommendations of Panel 1 members and TRADOC Schools.

6.2 Recommended Proponent

The MOSQ and Lifelong Learning Implementation Plan recommends each TRADOC Schoolhouse continues as the proponent for the functional training capabilities recommended for MOSQ and Lifelong Learning.

6.3 MOSQ and Lifelong Learning Strategy

TRADOC is adopting lifelong learning as its education and training approach for the full spectrum Army. The adoption of lifelong learning is made feasible with the intersection of major capabilities that include:

- Communication infrastructure to support access and distribution of education and training materials and learning and student management.
- Infusion of technology-based equipment, weapons, components, and supporting systems into the structure.
- Computer hardware and software that will provide these capabilities to individual soldiers, leaders, and units worldwide.
- Software tools and methods to support cost effective simulations that provide “learning by doing” on-demand, at the location of the soldier worldwide.
- Soldiers and leaders who are capable and comfortable using Web based materials and technologies for education and training, and distributed education methodologies.

This lifelong learning strategy is being accomplished with the:

- Integration of existing personnel, materials, methods, facilities, and infrastructure with emerging education, training and simulations technologies, methodologies, and evaluations.
- Adding of new methods and capabilities such as Assignment-Oriented Training, Resource Centers, and Virtual Campuses where necessary to realize the full potential of lifelong learning in the Information Age.

The strategy provides better support of field commanders and their units. It includes a new level of commitment for:

- TRADOC to deliver products and services that are valued and sought by its customers, the lifelong learning student and their chain of command, to help them learn, grow, and achieve to perform better; this goal includes helping them acquire skills to perform immediate tasks better.
- Lifelong learning soldiers and leaders as well as their chain of command to support the participation of these individuals. For example, valuing and providing the time required for participating.

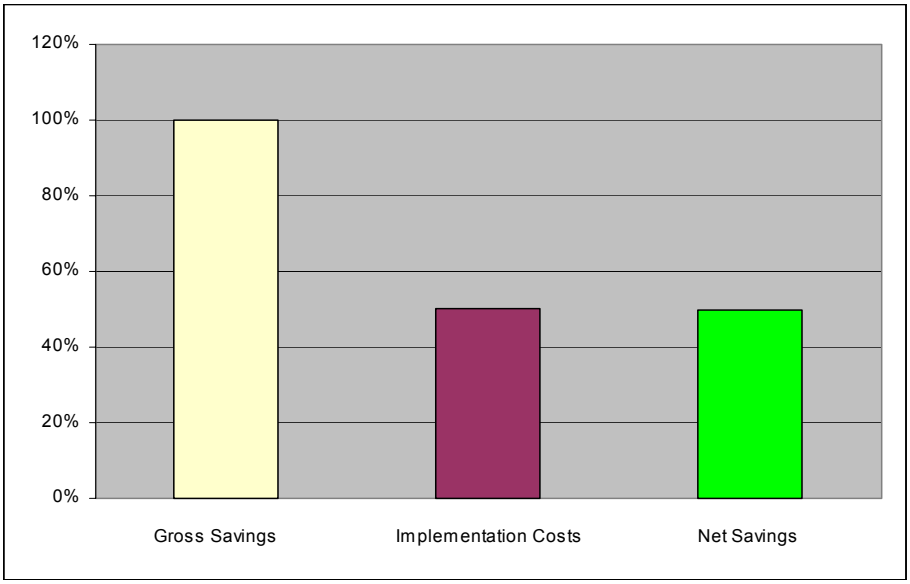
The proposed lifelong learning strategy provides the training competencies for soldiers, leaders, and units required of a full spectrum Army. The strategy is driven by the combined arms system of systems across the DTLOMS that is mandated by the contemporary operational environment. The intent for lifelong learning is to provide the education and training, consistent with training doctrine, to develop and sustain the Objective Force soldier and leader by:

- Leveraging technology for more effective and efficient training and skill proficiency.
- Maintaining links between the unit, institution, and the soldier to sustain skill proficiency regardless of location or mission.
- Establishing the training architecture supporting combined arms training requirements mandated in system of systems developments across DTLOMS.
- Providing capabilities to facilitate self-development in a lifelong learning environment.

The Commander's intent also included establishing a supportable resource strategy for executing the MOSQ and Lifelong Learning Implementation Plan. The Plan used data obtained from various sources to develop Rough Order of Magnitude (ROM) investment estimates and savings that can be used as guidelines for developing POM submissions. These estimates and savings are included in this section as a starting point for the process to develop POM submissions. It is understood that estimates will vary between Schoolhouses. The illustration below provides percentages of ROM investment estimates for the training enablers and moving to one shift training at the proponent Schoolhouse.

The Schoolhouses can expect the training enablers to cost approximately 60%, and the cost of MCA, OMA, and OPA for moving to one shift training to be around 40% of the cost for implementing the Plan. While these cost/investment estimates are considerable, there are significant net savings that can be realized from fully implementing the strategy. These net savings can be obtained when calculating and comparing the MCA, OMA, and OPA cost for moving to one shift training, using current methods, with the gross savings and cost of moving to one shift training using the methods included in the MOSQ and Lifelong Learning strategy.

As illustrated below, the MOSQ and Lifelong Learning strategy estimates a potential net saving of 50% of the gross savings. These net savings enables TRADOC to pay for implementing the MOSQ and Lifelong Learning strategy to provide better education and training from savings that are to be realized.



6.3.1 Return on Investment

The return on investment of the MOSQ and Lifelong Learning strategy includes:

- Providing better learning to improve individual soldier and leader skill proficiency.
- Delivering education and training at the location of the student worldwide to sustain skill proficiency.
- Reducing time for and number of students trained in the Schoolhouse and these associated costs.
- Reducing equipment and hardware trainers to no more than 30% for instruction at the Schoolhouse.
- Providing greater student throughput with current facilities.
- Increasing Schoolhouse surge capacity.
- Using fewer Schoolhouse brick and mortar facilities per student to reduce the OMA and OPA costs.
- Moving away from multiple shifts at the Schoolhouse.

6.3.2 Contributions to Readiness

The contribution of TRADOC's MOSQ and Lifelong Learning Strategy includes improving readiness. This contribution is accomplished by:

- Getting better-trained soldiers and leaders to the field faster.
- Providing better education and training content to the field and the Schoolhouse.
- Supporting better sustainment training to reduce skill decay.
- Providing training on-demand at the location of the soldier for new skills and technologies.
- Requiring less time in the Schoolhouse to free up more time for assignments in the field.
- Using less equipment and fewer facilities for training.

- Making better use of instructors and facilities.
- Increasing the surge capacity of TRADOC Schoolhouses.
- Supporting links between soldiers and leaders worldwide with the TRADOC Schoolhouse as the "Professional Home" of these soldiers and leaders.

6.3.3 Readiness Impact if not Available

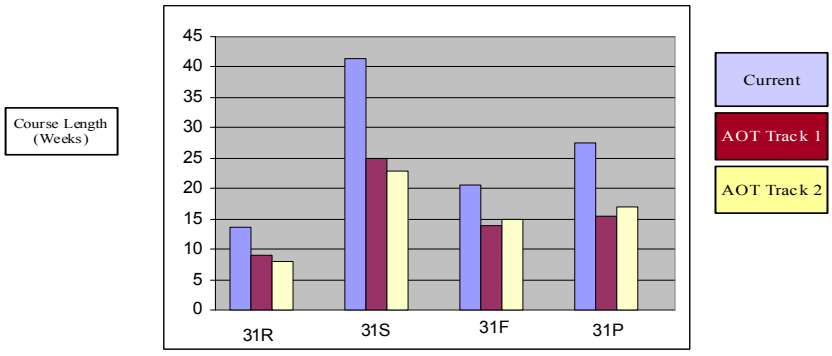
The education and training mission is the bedrock for the full spectrum Army. The Army has and is continuing to make the investments for equipping and supporting the force with modern technologies, equipment, and logistics. We now need to invest in the education and training capabilities and methods to ensure our soldiers and leaders are prepared to use technologies, equipment and support structure being fielded in the Contemporary Operating Environment. Failure to make this investment will result in the mismatch of an outdated education and training base trying to support a forward-looking Objective Force. The adverse impact on readiness will be significant; indeed, it could very well be an Achilles heel.

6.4 Assignment-Oriented Training

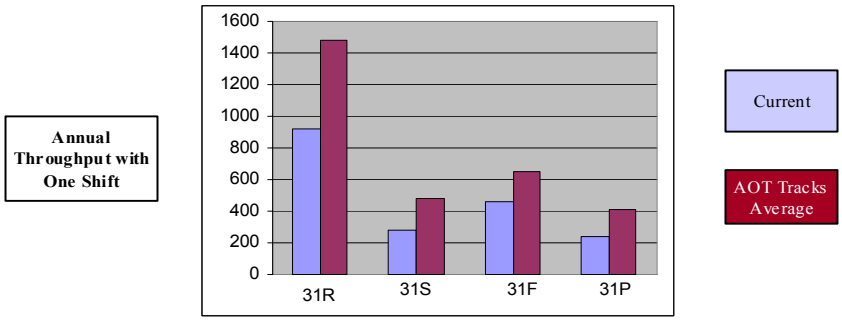
Assignment-Oriented Training includes the training provided at the TRADOC Schoolhouse during AIT for the follow-on assignments that will be experienced by soldiers and leaders during an Army career. The Assignment-Oriented Training during AIT is designed to provide the soldier and leader training that is common to their MOS plus training that is specific to their initial assignment. The training provided by TRADOC for follow-on assignments prepares the soldier and leader for their subsequent assignments. Examples of this training include equipment items that were not taught during AIT or updating the soldier or leader on technologies, equipment, doctrine, tactics, techniques, and procedures that have been introduced into the force. The methods and locations for completing the follow-on training can vary and include the unit, virtual campuses, as well as the TRADOC Schoolhouse.

6.4.1 Return on Investment

The return on investment, as illustrated below, for MOSs designated for Assignment-Oriented Training includes reducing course lengths and increasing the throughput capacity of the proponent Schoolhouse. The example of being able to reduce course lengths for designated MOSs illustrated below is taken from the USASC&FG Information Technology and Digital Training Masterplan. This example involves MOSs 31R, 31S, 31F, and 31P, and demonstrates how Assignment-Oriented Training can be used to reduce current course length.



The reduction of course length also increases the Schoolhouse throughput capacity, as illustrated below, for the same Signal MOSs. This increased throughput capacity can be accomplished without the comparable increases in facilities, equipment, and instructional personnel than would be required with current methods. The MOSQ and Lifelong Learning strategy recognizes that it is not possible to realize comparable reductions in course length and throughput capacity with all MOSs; however, the return on investment can be so significant that proponent Schoolhouses should strive to implement this approach where possible.



6.4.2 Contributions to Readiness

The Assignment-Oriented Training contributions to readiness include:

- Getting better trained soldiers and leaders to the field faster
- Increasing the amount of time soldiers and leaders are available for duty in field units
- Providing "tracked" or focused training for follow-on assignments to provide new skills, updates, and to sustain skills of the standard, competency based Army.

The availability of trainers and simulations that are in configuration with equipment and systems and that enable the soldier and leader to "learn by doing" are basic to the realization of successful Assignment-Oriented Training is not implemented.

6.4.3 Readiness Impact if not available

The adverse impact of not funding Assignment-Oriented Training includes longer courses in the Schoolhouse or soldiers and leaders arriving in their units who are not as well trained as they should be for their initial assignment. Longer courses:

- Reduce the time available for assignment in units while increasing the number of students in the Schoolhouse
- Potentially train soldiers and leaders on skills that are not needed in their initial assignment and/or are outdated or decayed by the time they need to use them in a subsequent assignment.
- Potentially teaches some skills that will never be used in a situation when the soldier or leader leaves the Army after the initial assignment.
- Do not make efficient use of resources or provide the best training.

The ability of the proponent Schoolhouse to support surges of increased throughput also will be not be realized without significant increases in facilities, equipment and personnel if Assignment-Oriented Training.

6.5 Simulations

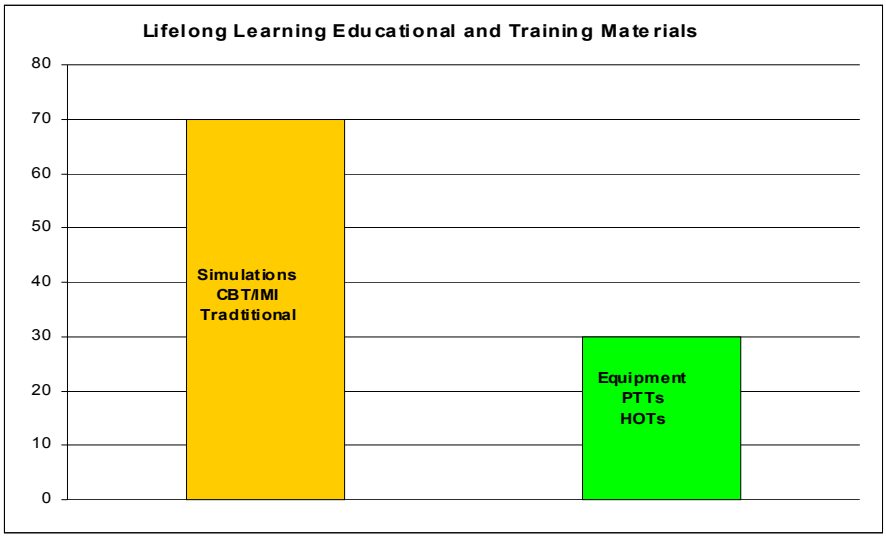
The presence and availability of PC based simulations that support "learning by doing" is a baseline capability of successful MOSQ and lifelong learning for a full spectrum Army with soldiers and leaders who employ the latest technologies. These simulations provide the optimal education and training materials as well as reference materials for soldiers and leaders in the field, and for instruction in the Schoolhouse. They include technical simulations to teach the **science** of operating and maintaining systems, equipment, and networks. They also include tactical simulations for teaching the **art** of doctrine, tactics, techniques, and procedures.

6.5.1 Return on Investment

Simulations support the delivery of "learning by doing" on-demand at the location of the soldier and leader with significant returns on investment that include:

- 25 to 40% increase in learning efficiency.
- 30 to 50% less training time required.
- 30 to 50% increase in student performance.
- Better student motivation and retention.
- 20 to 30% increase in the materials instructors can cover -- more effective instructors.
- 30 to 40% life cycle cost reduction.

Simulations, used with other software based content such as CBT/IMI and traditional materials, also enables the proponent Schoolhouse to significantly reduce the amount of equipment end items and other hardware items such as Part-Task and Hands-On Trainers required for training, as illustrated below.



The MOSQ and Lifelong Learning strategy seeks to reduce the use of hardware items such as equipment, PTTs, and HOTs for training to a ***maximum*** level of 30%. It also seeks to use software-based items for training to a ***minimum*** level of 70%. The savings realized include:

- Reduced costs for equipping the Schoolhouse.
- Reduced lifecycle cost of equipment for training.
- Fewer facilities for "housing" equipment for training.
- Less cost for updating the training materials to maintain configuration with equipment located in units.

These returns on investment are also applicable in field units where these simulations are available. Within the 70% of software based content, the MOSQ and Lifelong Learning strategy seeks to use simulations for a 70% *minimum* of the instruction, CBT/IMI for a *maximum* of 20%, and traditional materials for *no more* than 10% of the instruction.

The ROM cost/investment estimates for these materials to support the MOSQ and Lifelong Learning student for an hour of instruction are provided below. The estimates are based on the proponent Schoolhouses realizing the efficiencies that are possible with the use of the guidelines provided in Section 3.8 of this document for determining simulation requirements and designing simulations.

ROM Cost/Investment Estimate per Instructional Hour

• 20K	Simulations
• 10K	CBT/IMI
• 5K	Traditional Materials

6.5.2 Contributions to Readiness

The major contribution of simulations to readiness is better-trained soldiers and leaders. Their specific contributions include:

- Ability to provide training for legacy, digital and COTS based systems during the transformation of the Army.
- Soldiers and leaders who are better trained on the equipment, systems and doctrine, tactics, techniques, and procedures.
- Better student motivation, engagement, and retention (30 to 50% increase in student performance).
- Focused training for follow-on assignments.
- Less equipment, both the Schoolhouse and field units, and fewer facilities required for training (30 to 40% life cycle cost reduction).
- Ability to provide training for dangerous tasks or on equipment that is not available to the Schoolhouse.
- Improved ability to maintain configuration with changes in equipment.

6.5.3 Readiness Impact if not Available

The adverse readiness impact of simulations not being available to support the MOSQ and lifelong learning strategy will be soldiers and leaders who are not as well trained as they could and should be. The basis for this impact statement includes the inability of TRADOC Schoolhouses to:

- Keep pace with the infusion of technologies and systems that include legacy, digital, and COTS based systems without simulations, particularly during the transformation of the Army to the Objective Force.
- Deliver training on-demand at the location of the solder and leader for “learning by doing” to reduce or prevent skill decay. Soldiers and leaders will have to return to the Schoolhouse or attend unit schools to receive training.
- More costly Schoolhouse training with the continued heavy use of equipment for training purposes.

6.6 Resource Center

The reliable access and distribution of education and training materials and management records are critical for a successful MOSQ-Lifelong Learning strategy. The Resource Center provides a portal between the lifelong student and the Schoolhouse for this access and distribution with a:

- *Digital Library* to support storage of the simulation and web-based training software and databases as well as providing a comprehensive search capability.
- *24/7 Help Desk* to help individuals at other locations direct calls to experts who can assist Users with technical problems and provide other information as needed.
- *Learning and Student Management System* to monitor and manage each student's lifelong learning training needs.
- *DTAC Interface* for distributing education and training materials across the Internet.
- *Configuration Management* of software.
- *Lifelong Learning Web Site*.
- *Distribution* methods that include Internet, CD-ROM, network distribution, and partnerships for use of existing networks.

6.6.1 Return on Investment

The Resource Center is the electronic, digital, and 24/7 Reach Back hub that makes lifelong learning user friendly and possible. Its return on investment includes:

- Achieving the efficiencies associated with common architectures and reuse.
- Leveraging the communication infrastructures and the computer hardware, software and peripherals to accomplish lifelong learning.
- Providing access to and distribution of configured, managed lifelong learning materials by soldiers and leaders worldwide, and the management required for successful lifelong learning.
- Providing the portal through which:
  - First Line Leaders download tasks to develop "tailored" Soldier's Manuals and verification of performance.
  - Soldiers and leaders develop and maintain a relationship with the Schoolhouse as their "professional home."

The effectiveness and efficiencies of the MOSQ and Lifelong Learning strategy are not possible without the presence and operation of a fully functional Resource Center.

6.6.2 Contributions to Readiness

The Resource Center is the electronic and digital hub that makes lifelong learning user friendly and value added. It is the location through which access and distribution of the materials and management for lifelong education and training is provided. The services provided in the Resource Center remove many of the distractions such as using new education and training technologies to enable the instructor/facilitator and student to focus on learning. The 24/7 Help Desk provides reach back from the location of soldiers and leaders worldwide to the proponent Schoolhouse to maintain and strengthen these links. The databases store, configure, distribute, and manage the software databases to support lifelong learning. The Learning and Student Management System enables to Schoolhouse to monitor and manage each student's lifelong learning needs and to support the needs of first line supervisors for training their soldiers.

6.6.3 Readiness Impact if not Available

The absence of the capabilities included in the Resource Center essentially eliminates the ability of TRADOC Schoolhouses to leverage the potential of user-friendly lifelong learning. The configuration and maintenance of materials will be significantly impacted and their effectiveness reduced without the capabilities of the Resource Center. The Learning and Student Management System to monitor and manage each student's lifelong learning will have to be managed by another location.

6.7 Virtual Campuses

The virtual campus provides a mechanism or facility where soldiers and leaders can receive standardized individual, collective, and self-development training as part of the lifelong learning process. The virtual campus enables the TRADOC Schoolhouse to deliver training to soldiers and leaders without them having to return to a proponent school. This capability:

- Supports the Assignment-Oriented Training and skill sustainment processes by allowing soldier's to complete MOSQ training from any location.
- Enables soldiers and leaders to access new materials for use in their duty assignments.

The physical locations of virtual campuses in the near term will be those locations sponsored by The Army Distance Learning Program (TADLP), with the final goal of delivering the training to the soldier and unit anytime, at any place. The virtual campus will deliver standardized (proponent/Army) courseware to the total Army (AC/RC). The virtual campus is a major step in delivering lifelong learning materials, management, and processes to the locations of soldiers and leaders. The virtual campus will use emerging technologies to compliment the TADLP, making education and training more accessible at the teachable moment.

6.7.1 Return on Investment

The virtual campuses enable TRADOC proponent Schoolhouses to deliver lifelong learning materials and instruction to the location of soldiers and leaders worldwide. These campuses complement the Digital Training Facilities being established in the TADLP and by Reserve Components and, as a result, represent the efficient leveraging of current programs. They also support the ability of the Schoolhouse to provide focused training for the follow-on assignments inherent in Assignment-Oriented Training. These capabilities can be expected to reduce the TTHS account for students located at the proponent Schoolhouse.

6.7.2 Contributions to Readiness

The virtual campus enables TRADOC sponsored learning to be delivered on-demand at the location of soldiers and leaders. This capability improves readiness by providing a continuous training environment throughout a career and reducing the time the soldier and leader are away from unit/home. The virtual campuses afford significant training cost savings and efficiencies by use of multimedia, quicker and wider dissemination of updated training materials, and standardized AC/RC training.

6.7.3 Readiness Impact if not Available

The effectiveness of MOSQ and lifelong learning will be significantly reduced without the presence of virtual campus capabilities. This reduced effectiveness will adversely impact readiness. Specifically, it will be more difficult to:

- Deliver education and training materials to the lifelong student.
- Deliver standardized training to both AC/RC units instantaneously.
- Maintain immediate access to updated FM's, Soldier Manuals, and other reference materials.

There also will be a greater need for the individual to return to proponent schools in residence for receiving deferred training in the Assignment-Oriented Training model.

6.8 MOSQ-Lifelong Learning Organization

The TRADOC MOSQ and lifelong learning strategy is not business as usual. It is a major change in focus for HQ TRADOC and the Schoolhouse, staff and faculty, and the soldiers and leaders who are our lifelong students. The current organization and staff and faculty of the proponent TRADOC Schoolhouse are focused on resident training/education. To effectively implement the lifelong learning process, the proponent Schoolhouse and its staff and faculty will have to account for a mixture of traditional resident instruction as well as instruction presented in other locations using the most effective mix of locations, materials and methods. The organization will be structured to leverage new education and training methods and deliver lifelong learning to our soldiers, leaders, and units. The organizational structure is more than brick and mortar. It is a combination of hardware, software, facilities, connectivity, and people providing the lifelong learning material, information, and support to resident students and active/reserve soldiers and units at other locations. Primary tenets of the organization include:

- Managing the Assignment-Oriented Training program.
- Developing and providing exportable courseware (for example, simulations).
- Resource center to serve as the portal to the lifelong learner.
- Virtual campus extensions to provide proponent school content.
- Staff and faculty.

6.8.1 Return on Investment

The organization and alignment of the proponent Schoolhouse and HQ TRADOC with the MOSQ and Lifelong Learning Implementation Plan is essential for its success and realizing the returns on investment inherent in this strategy. The organization described in this strategy enables the Schoolhouse and HQ TRADOC to transition current staff to satisfy the requirements of lifelong learning and to keep pace with the Objective Force.

6.8.2 Contributions to Readiness

The TRADOC Schoolhouse is the bedrock of successful MOSQ and lifelong learning. The organizing and the transitioning of staff and faculty of proponent Schoolhouses to deliver lifelong learning provides the foundation for increasing Army readiness where:

- Assignment-Oriented Training will put a more skill-focused soldier in the field faster.
- Use of simulations and other technology-assisted courseware will provide standardized training to active/reserve soldiers and reduce the reliance on expensive equipment for training.
- Delivering lifelong learning products to soldiers, regardless of location, will decrease the amount of time soldiers are away from units for training.
- Students receive the education and training they need when they need it and where they need it, to include being supported by qualified faculty located at the Schoolhouse and other locations, as appropriate.

6.8.3 Readiness Impact if not Available

The success of MOSQ and lifelong learning that is not business as usual is dependent on reorganizing the Schoolhouse and transitioning the faculty to this environment. It is not possible to realize successful MOSQ and lifelong learning without the proponent Schoolhouses being able to manage the lifelong learning process. TRADOC Schoolhouses cannot keep pace with training as we progress to the Objective Force with the current organization and without transitioning the faculty. The result will be the continued reliance on expensive equipment for training, lengthy resident instruction as technology changes, and keeping soldiers away from units for unacceptable periods of time to receive proponent delivered individual, collective and self-development training – all of which detracts from readiness.

6.9 Example of Investment Model and Methodology

This section describes the methodology used at the USASC&FG to develop the POM submission for its Information Technology and Digital Training Masterplan. This methodology is provided to assist the proponent Schoolhouse in developing POM submission for implementing the MOSQ and Lifelong Learning strategy.

SUMMARY
($M)

		TTHS SAVINGS					FY 04		FY 05		FY 06		FY 07		FY 08		FY 09		TOTAL
	MOS	WEEKS	DAYS	ppropriati	rogram Eleme	MDEP	e-Time R	Recurring	e-Time R	Recurring	e-Time R	Recurring	e-Time R	Recurring	e-Time R	Recurring	e-Time R	Recurring	
Assignment Orien		*	*	**2020**	**324772**	**TADV**	0.5	0	0.5	0.0	0.03	0	0.03	0	0.03	0	0.03	0	1.12
Virtual Campus (Included in Res Ctr)							0	0	0	0	0	0	0	0	0	0	0	0	0.0
Lifelong Learning Materials							0	0	0	0	0	0	0	0	0	0	0	0	0.0
ulations				**2020**	**321731.2**	**TATC**	21.2	0	12.1	0	6.0	0	0	1.83	0	1.83	0	1.83	44.79
CBT/IMI				**2020**	**324772**	**TADV**	6.04	0	3.68	0	3.6	0	0	0	0	0	0	0	13.32
aditional				**2020**	**324772**	**TADV**	3.07	0	1.8	0	1.71	0	0	0	0	0	0	0	6.58
PTTs							0	0	0	0	0	0	0	0	0	0	0	0	0.0
HOTs							0	0	0	0	0	0	0	0	0	0	0	0	0.0
Resource Center				**2035**	**OPATNG**	**TATC**	0.26	0	0.32	0	0	0	0	0	0	0	0	0	0.58
				2020	**321731.2**	**TATC**	0	0.9	0	0.9	0	0.9	0	1.02	0.03	1.0	0	1.0	5.75
Organization				**2020**	**321731.2**	**TATC**	0.02	0.17	0	0.17	0	0.17	0	0.17	0	0.18	0	0.18	1.06
				2020	**324772**	**TADV**	0	0.06	0	0.06	0	0.06	0	0.06	0	0.06	0	0.07	0.37
Technical Support				**2020**	**324772**	**TADV**	0.0	0.15	0.0	0.15	0.0	0.15	0.0	0.15	0.0	0.15	0.0	0.15	0.9
Total							31.09	1.28	18.4	1.28	11.34	1.28	0.03	3.23	0.06	3.22	0.03	3.23	74.47

The funding strategy model and ROM investment estimate process used by the USASC&FG is offered as a starting point for the proponent School to develop their POM submission to execute the MOSQ and Lifelong Learning strategy.

RESOURCE REQUIREMENT: $74.47M

DESCRIPTION:

This $74.47M UFR represents OPA, OMA, and manpower requirements for implementing lifelong learning at the US Army Signal Center and Fort Gordon, in accordance with the Information Technology and Digital Training Masterplan, dated July 2001. The total investment includes designing, developing, implementing, and maintaining several key efforts that form the foundation of the lifelong learning: Assignment-Oriented Training, Lifelong Learning Materials, Resource Center, Virtual Campus, Organization, and Technical Support.

IMPACT IF NOT RESOURCED:

The USASC&FG cannot continue using the current education and training model and meet its requirements to signal and information soldiers, leaders and units. The number of communication based systems and networks is increasing dramatically and the trend is expected to continue. The infusion of new technologies and the increasing use of Commercial-off-the--shelf (COTS) products are taking place side by side with the continued operations of legacy systems, resulting in a mixture of old and new for the foreseeable future that complicates the training challenges facing the UASC&FG. If this initiative is not funded, soldiers and leaders will arrive at their units in a decreased state of readiness to perform the mission. The schoolhouse will be forced to rely on unsuccessful traditional ways of coping with the situation: lengthened resident courses, multiple shift training, and inefficient work-a-rounds to provide hands-on equipment training as we struggle for funds to maintain the equipment.

The return on investment of the lifelong learning strategy includes the following benefits:
- providing better learning to improve individual soldier and leader skill proficiency
- delivering training at the location of the student worldwide to sustain skill proficiency
- reducing time for and number of students trained in the schoolhouse
- providing greater student throughput with current facilities
- moving away from multiple shifts and increasing schoolhouse surge capacity
- using fewer schoolhouse brick and mortar facilities per student to reduce the OMA and OPA costs

Failure to make this investment will result in the mismatch of an outdated education and training base trying to support a forward looking Objective Force.

Descriptions, resource impacts, and costing methodologies for each of the lifelong learning tenets are presented in the following paragraphs.

TTHS SAVINGS:

The TTHS savings figures represent weeks of training that will be subtracted from the current (one-track) resident course once the course has been converted to AOT. Savings figures are outlined below. For details on TTHS savings consult the attached spreadsheets.

31R

From:	13w, 3d	13w, 3d
To:	8w, 3d ECB	9w, 3d EAC
Save:	5w, 0d	4w, 0d

31S

From:	38w, 6d (39w, 1d)	38w, 6d
To:	24w, 4d Strategic	22w, 2d Tactical
Save:	14w, 2d	16w, 4d

31P
From: 27w, 1d 26w, 6d (27w, 1d)

To: 17w, 0d Strategic 12w, 2d Tactical
Save: 10w, 0d 14w, 4d

31F
From: 20w, 3d 20w, 3d

To: 15w, 3d EAC 18w, 3d, ECB
Save: 5w, 0d 2w, 0d

ASSIGNMENT ORIENTED TRAINING:

DESCRIPTION
Assignment-Oriented Training includes the training provided at the TRADOC Schoolhouse during AIT for the follow-on assignments that will be experienced by soldiers and leaders during an Army career. The Assignment-Oriented Training during AIT is designed to provide the soldier and leader training that is common to their MOS plus training that is specific to their initial assignment. The training provided by TRADOC for follow-on assignments prepares the soldier and leader for their subsequent assignments. Examples of this training include equipment items that were not taught during AIT or updating the soldier or leader on technologies, equipment, doctrine, tactics, techniques, and procedures that have been introduced into the force. The methods and locations for completing the follow-on training can vary and include the unit, virtual campuses, as well as the TRADOC Schoolhouse.

IMPACT IF NOT RESOURCED
The adverse impact of not funding Assignment Oriented Training includes longer courses in the Signal Schoolhouse and soldiers and leaders arriving in their units who are not as well trained as they should be for their initial assignment.
Longer courses:
- reduce the time available for assignment in units while increasing the number of students in the Schoolhouse
- potentially train soldiers and leaders on skills that are not needed in their initial assignment and/or are outdated or decayed by the time they need to use them in a subsequent assignment
- potentially teach some skills that will never be used in a situation when the soldier or leader leaves the Army after the initial assignment
- do not make efficient use of resources or provide the best training.

Resource Impacts for follow on MOSQ training without simulations:
Results of our research into the career paths of soldiers in 31R, 31S, 31P and 31F indicate there will be substantial costs for bringing these students back to the institution for follow on training if the simulations tenet of the lifelong learning initiative is not implemented. Cost estimates for FY

03 through 06 for PCS with TDY enroute of those soldiers we predict will require follow-on training are:

FY 03 - $523.2K
FY 04 - $2,523.3K
FY 05 - $6,387.3K
FY 06 - $8,667.6K

Further details are found in Appendix C.

The ability of the Signal School to support surges of increased throughput also will be impaired without significant increases in facilitates, equipment and personnel if the investment in Assignment Oriented Training is not made.

COSTING METHODOLOGY
The funding strategy model for Assignment-Oriented Training includes:

- Determining MOSs to be converted to AOT and then estimate the cost to redesign and reconfigure existing courses into AOT tracks.
- Including the cost for delivering training for follow-on assignments to complete MOSQ.
- Using a phased approach to transition from the current model to the AOT model.
- Considering initiating one or more pilot courses.
- Calculating other training development costs

Cost figures for AOT, Simulations, CBT, and Traditional methods of instruction were derived using the following guidelines: At a minimum, 70% of instructional materials will be comprised of simulations, CBT/IMI and traditional methods. This 70% is broken down as follows:

70% simulations
20% CBT/IMI
10% traditional

At a maximum, 30% of instructional materials will be comprised of PTT/HOT and the actual equipment.

The simulations ROM cost figures for each MOS were used as a baseline number from which to derive the ROM cost figures for assignment oriented training, CBT/IMI, and traditional methods.

The USASC&FG ROM cost estimate for Assignment Oriented Training of $1.12M for six years includes some of the investments from the TADLP initiative for training development work to convert existing POI into AOT tracks, and funds required to purchase new strands of training for the 31R and 31F contracted training from General Dynamics. The $1.12M is broken out as shown:

FY 04: $500K for redesign and development for 31R, 31P, and 31S, and purchase of additional strands for 31R

FY 05: $500K for redesign and development for 31R, 31P, and 31S, and purchase of additional strands for 31R

FY 06 through FY 09: $30K per year (total $.1M) for redesign and development for 31F, Leader Training, and all other MOS, and purchase of additional strands for 31F

LIFELONG LEARNING MATERIALS:
(See Simulation Spreadsheets for MOS 31R, 31S, 31P, 31F and Leader)

DESCRIPTION
The presence and availability of PC-based simulations that support "learning by doing" is a baseline capability of successful MOSQ and lifelong learning for a full spectrum Army with soldiers and leaders who employ the latest technologies. These simulations provide the optimal education and training materials as well as reference materials for soldiers and leaders in the field, and for instruction in the Schoolhouse. They include technical simulations to teach the **science** of operating and maintaining systems, equipment, and networks. They also include tactical simulations for teaching the **art** of doctrine, tactics, techniques, and procedures. Simulations allow us to train the 10-level critical tasks for MOSQ in residence and also for follow-on-training outside the schoolhouse.

IMPACT IF NOT RESOURCED
If simulations are not available to support the lifelong learning strategy the training for Signal soldiers and leaders will be adversely impacted. The schoolhouse and TRADOC will not be able to keep pace with the rapid infusion of technologies and systems that include legacy, digital, and COTS based systems, particularly during the transformation of the Army to the Objective Force. There will be no training on-demand at the location of the soldier and leader for "learning by doing" to reduce or prevent skill decay. Soldiers and leaders will have to return to the Schoolhouse or attend unit schools to receive training. The Schoolhouse will continue to incur insupportable costs to sustain the heavy use of equipment for training. Without simulations, we cannot support TM-based materials to support lifelong learning by doing. We cannot export the hardware/software for Hands-On-Trainers or Part-Task Trainers.

COSTING METHODOLOGY
- The funding strategy model for MOSQ and Lifelong Learning materials includes the cost of development by using the 70-20-10 percentages described above.

The USASC&FG ROM cost estimate of $44.79M over the six year POM includes simulations for the entire suite of Signal and information technology systems taught at the Signal School. The estimates include simulations for four AOT MOS (31R, 31S, 31P, and 31F) as well as simulations to support other MOS and officer specialty codes:
- $21.2M in the first year to support MOS 31R and 31S
- $12.1M in the second year to support 31P and 31F
- $6M in the third year to support remaining MOS and leader training
- $1.8M in the fourth year and every year thereafter to support 10% life cycle maintenance of the simulation software for MOS 31S, 31P and Leader Simulations to allow for upgrades based on technology inserts, and the investment in additional simulations for other Signal MOS and SC that have not been fully analyzed at this time.

The USASC&FG ROM cost estimate of $13.32M for CBT/IMI is based upon the 70-20-10 percentage break out described above for each of the MOS's as shown below. These cost estimates represent training development investments to produce exportable interactive training materials above and beyond simulations such as CBT and IMI, in accordance with The Army Distance Learning Program. The cost estimates are broken out as shown below:

31R - $3.14M
31S - $2.9M
31P - $.78M
31F - $2.9M
Leader Training - $1.6M
All other MOS - $2.0M

The USASC&FG ROM cost estimate of $6.58M for Traditional Training is based upon the 70-20-10 percentage break out described above for each of the MOS's as shown below. These cost estimates represent training development and instructor investments in traditional instructional methods and could include salaries for instructors, and investments in classroom supplies and instructional materials used in the traditional setting.

31R - $1.57M
31S - $1.5M
31P - $.4M
31F - $1.4M
Leader Training - $.81M
All other MOS - $.9M

RESOURCE CENTER & VIRTUAL CAMPUSES:

(See Resource Center/Virtual Campus Spreadsheet)

DESCRIPTION

These two tenets are functionally linked. The Resource Center provides access and distribution of lifelong learning content. The Virtual Campus represents the remote "presence" of the home campus at soldiers and leaders locations worldwide. Costs are explained separately in the paragraphs below.

Resource Center

The reliable access and distribution of education and training materials and management records are critical for a successful MOSQ-Lifelong Learning strategy. The Resource Center provides a portal between the lifelong student and the Schoolhouse for this access and distribution with a:

- *Digital Library* to support storage of the simulation and web-based training software and databases as well as providing a comprehensive search capability.
- *24/7 Help Desk* to help individuals at other locations direct calls to experts who can assist Users with technical problems and provide other information as needed.
- *Learning and Student Management System* to monitor and manage each student's lifelong learning training needs.
- *DTAC Interface* for distributing education and training materials across the Internet.
- *Configuration Management* of software
- *Lifelong Learning Web Site*
- *Distribution* methods that includes Internet, CD-ROM, network distribution, and partnerships for use of existing networks

IMPACT IF NOT RESOURCED

The absence of the capabilities included in the Resource Center essentially eliminates the ability of the Signal School to leverage the potential of user-friendly lifelong learning. The configuration and maintenance of materials will be significantly impacted and their effectiveness reduced without the capabilities of the Resource Center. The Learning and Student management System to monitor and manage each student's lifelong learning will have to be managed by another location.

COSTING METHODOLOGY

The USASC&FG six-year ROM cost estimate of $6.32M for the Resource Center / Virtual Campus includes:

- First Year total: $1.15M.
  - Includes the ROM cost estimate of $522K for operating supplies, hardware, and software to establish the Resource Center
  - $25K is the cost estimate for travel and training
  - $606K is the ROM cost estimate for hiring 9 contractor personnel: 2 integrator/senior administrators at a ROM cost estimate of $120K each, 2 systems administrators at a ROM cost estimate of $102K each, and 5 training technicians for the help desk at a ROM cost estimate of $37K each
- Second Year ROM cost estimate is $1.22M.
  - Includes the ROM cost estimate of $585K for recurring operating supplies, hardware, and software to maintain the Resource Center which includes:
    --Hardware for additional servers to complete a clustered server farm ($200K)
    --Two additional Virtual Campus data caches ($98K)
  - $25K is the cost estimate for travel and training
  - $606K is the recurring cost estimate for the 9 contractor personnel
- Third Year ROM cost estimate is $898K.
  - Includes the ROM cost estimate of $267K for recurring operating supplies, hardware, and software to maintain the Resource Center
  - $25K is the cost estimate for travel and training
  - $606K is the recurring cost estimate for the 9 contractor personnel
- Forth Year ROM cost estimate is $1.02M.
  - Includes the ROM cost estimate of $392K for recurring operating supplies, hardware, and software to maintain the Resource Center which includes:
    --$100K for Server Component replacement (3 year life-cycle)
    --$25K New workstations & laptop for staff (3 year life-cycle)
  - $25K is the cost estimate for travel and training
  - $606K is the recurring cost estimate for the 9 contractor personnel
- Fifth Year ROM cost estimate is $1.03M.
  - Includes the ROM cost estimate of $397K for recurring operating supplies, hardware, and software to maintain the Resource Center which includes:
    --$30K SQL Database software upgrades to the servers
  - $25K is the cost estimate for travel and training
  - $606K is the recurring cost estimate for the 9 contractor personnel
- Sixth Year ROM cost estimate is $998K.
  - Includes the ROM cost estimate of $367K for recurring operating supplies, hardware, and software to maintain the Resource Center
  - $25K is the cost estimate for travel and training
  - $606K is the recurring cost estimate for the 9 contractor personnel

Virtual Campuses

DESCRIPTION
The virtual campus provides a mechanism or facility where soldiers and leaders can receive standardized individual, collective, and self-development training as part of the lifelong learning process. The virtual campus enables the TRADOC Schoolhouse to deliver training to soldiers and leaders without them having to return to a proponent school. This capability:

- Supports the assignment-oriented training and skill sustainment processes by allowing soldier's to complete MOSQ training from any location.
- Enables soldiers and leaders to access new materials for use in their duty assignments.

The physical locations of virtual campuses in the near term will be those locations sponsored by The Army Distance Learning Program (TADLP), with the final goal of delivering the training to the soldier and unit anytime, at any place. The virtual campus will deliver standardized (proponent/Army) courseware to the total Army (AC/RC). The virtual campus is a major step in delivering lifelong learning materials, management, and processes to the locations of soldiers and leaders. The virtual campus will use emerging technologies to compliment the TADLP, making education and training more accessible at the teachable moment.

IMPACT IF NOT RESOURCED
The effectiveness of lifelong learning will be significantly reduced without the presence of virtual campus capabilities. This reduced effectiveness will adversely impact readiness. It will be more difficult to deliver education and training materials to the lifelong student. Instantaneous and simultaneous delivery of standardized training to both AC and RC units will not be possible. Immediate access to updated FM's, soldier manuals, and other reference materials will not be maintained.

COSTING METHODOLOGY
The funding strategy model for the Virtual Campuses includes:

- Identifying candidate locations for the virtual campuses within the existing and planned TADLP infrastructure.
- Including existing unit schools and universities.
- Determining the equipment (hardware and software) required to support each virtual campus to tie proponent content in the TADLP infrastructure.
- Considering Content Distribution and Management (CDM) devices and Content Edge (CE) devices for the virtual campus locations.

The USASC&FG ROM cost estimate is included in the Resource Center costs.

ORGANIZATION:
(See Organization Spreadsheet)

DESCRIPTION
The TRADOC MOSQ and lifelong learning strategy is not business as usual. It is a major change in focus for HQ TRADOC and the Schoolhouse, staff and faculty, and the soldiers and leaders who are our lifelong students. The current organization and staff and faculty of the proponent TRADOC Schoolhouse is focused on resident training/education. To effectively implement the lifelong learning process, the proponent Schoolhouse and its staff and faculty will have to account for a mixture of traditional resident instruction as well as instruction presented in other locations using the most effective mix of locations, materials and methods. The organization will be structured to leverage new education and training methods and deliver lifelong learning to our soldiers, leaders, and units. The organizational structure is more than brick and mortar. It is a combination of hardware, software, facilities, connectivity, and people, providing the lifelong learning material, information, and support to resident students and active/reserve soldiers and units at other locations. Primary tenets of the organization include:

- Managing the assignment-oriented training program.
- Developing and providing exportable courseware (i.e., simulations).
- Resource Center to serve as the portal to the lifelong learner.
- Virtual campus extensions to provide proponent school content.
- Staff and faculty.

IMPACT IF NOT RESOURCED
The success of MOSQ and lifelong learning that is not business as usual is dependent on reorganizing or realigning the Schoolhouse and transitioning the faculty to this environment. It is not possible to realize successful MOSQ and lifelong learning without the Signal School being able to manage the lifelong learning process. We cannot keep pace with training as we progress to the Objective Force with the current organization and without transitioning the faculty. The result will be the continued reliance on expensive equipment for training, lengthy resident instruction as technology changes, and keeping Signal soldiers away from units for unacceptable periods of time to receive proponent delivered individual, collective, and self-development training - all of which detracts from readiness.

COSTING METHODOLOGY
The USASC&FG funding strategy model for estimating the cost of organizing staff to support lifelong learning include the following components:

- Realignment of existing structure: Current organization may not be efficiently aligned or adequately staffed to perform the lifelong learning support mission.
- Evaluation: The evaluation mission performed in the QAO is critical to the success of the lifelong learning initiative, and includes:
  - Development of a master evaluation plan, design, development, administration, and analysis of survey instruments
  - On-site visits to virtual campuses and units, classroom observations, and comparative assessments of the effectiveness of AOT vice traditional instruction, and of simulation as compared to hands-on training.
- Staff Training: Cost estimates for purchasing training for the institution staff and faculty. Training will include latest methodologies for redesigning courseware, performing analysis and media selection to determine tasks that are appropriate for conversion into simulations and other multimedia, and use of on-line instructional techniques.

The ROM cost estimates for these components are provided below:

- Realignment of Existing Structure over six years is estimated to total $432K: $72K/year over 6 years for a total of $432K.
  - One additional person is required for a yearly total of $62K:
    - 1 GS-12 to provide technical support for the development and upgrade of simulations.

  - A yearly recurring cost of $10K is required for supplies, travel, and training.

- Evaluation: Six Year Total: $849K. If resources for the Signal School's QAO are not provided by TRADOC, at least 1 GS-13 ($73K) and 1 GS-11 ($51K) civilian will be required, plus an annual $10K for travel, $5K for supplies, and a one-time $15K for furniture for a grand total of $849K for the six years. A total of $154K is required in the first FY (salaries, travel, supplies, plus the one-time $15K) and $139K (salaries, travel, supplies, each successive FY.)
- Staff Training: Six Year Total: $150K. The Signal School's ROM cost estimate is $25K per year for a six-year total of $150K to purchase one contracted man-year per year to provide staff and faculty training.

TECHNICAL SUPPORT:

DESCRIPTION
The USASC&FG funding strategy model includes the cost for contractor support to perform analysis, design, and development assistance to implement the masterplan across established timelines. The deliverables include development of long and short-range plans for details within each timeline, metrics to assist in the evaluation effort, and results from research on lessons learned from other organizations that have implemented similar initiatives.

IMPACT IF NOT RESOURCED
If this initiative is not funded the Signal School will lose its ability to carry on the lifelong learning plan based upon lessons learned and technical expertise. Long and short-range plans will not be published, and we will not have a coherent approach to accomplishing the goals within each tenet at the right time.

COSTING METHODOLOGY
The USASC&FG six-year ROM cost estimate for Technical Support is $.9M. This estimate is based on $150K per year for a six-year total of $900K to purchase contractor manpower to perform technical assistance tasks.

JUSTIFICATION:
Supports TRADOC Command Plan FY 01 - 07 DCST Goals 2, "Implement the Institutional Digital Education Plan (IDEP"; 4, "Develop training strategies that continue to capitalize on the use of simulations that reduce OPTEMPO Platform"; and 8, "Develop and implement the new Army training strategy". Supports the Information Technology and Digital Training Masterplan, dated 12 July 01. The Masterplan lays the foundation for the US Army signal Center and Fort Gordon to fulfill its training responsibilities to soldiers, leaders, and units, to include joint and

combined training. The core of the plan consists of a revolutionary approach to information technology training design and execution for Advanced Individual Training, Noncommissioned Officer training, and Officer and Leader Training.

6.10 Summary

This section describes a funding strategy and provides guidelines for developing a POM submission for the MOSQ and Lifelong Learning Implementation Plan. This guidance includes descriptions for returns on investment, contributions to readiness, trade-offs, and the impact on readiness if the training support enablers are not realized. It also includes the funding strategy model and the ROM investment estimate logic and rationale used by the USASC&FG to develop its POM submission for implementing MOSQ and Lifelong Learning. The description is provided as guidance for HQ TRADOC and proponent Schoolhouses to use in developing "tailored" POM submissions for their execution of the strategy.